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Bureau of Land Management

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OIL AND GAS LEASING IN THE FILLMORE FIELD OFFICE

Location: Fillmore Field Office
Juab and Millard Counties, Utah

Applicant/Address: U.S. Department of the Interior
Bureau of Land Management
Utah State Office
440 West 200 South, Suite 500
Salt Lake City, Utah 84101

U.S. Department of the Interior
Bureau of Land Management
Utah State Office
440 West 200 South, Suite 500
Salt Lake City, Utah 84101
Phone: (801) 539-4001
Fax: (801) 539-4013

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1 INTRODUCTION

This environmental assessment (EA) is an evaluation of the potential impacts on the natural and human environment that could result from oil and gas leasing of lands in the Fillmore Field Office (FFO) of the Bureau of Land Management (BLM). This EA is an analysis of impacts on the quality of the environment and serves as a vehicle for interdisciplinary review of the proposal and, if necessary, will be used to facilitate the preparation of an environmental impact statement (EIS). The direct, indirect, and cumulative environmental effects that would result from implementing the alternatives are disclosed in this EA as required by the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321-4347) and Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508), and the Federal Land Policy and Management Act of 1976 (FLPMA). The proposed action is in conformance with the Warm Springs Resource Area Resource Management Plan and Record of Decision (WSRA RMP/ROD, 1988), the House Range Resource Area Resource Management Plan and Record of Decision (HRRA RMP/ROD 1987), and is consistent with the President's National Energy Policy (NEP), Executive Order (EO) 13212- Actions To Expedite Energy-Related Projects, and the Energy Policy Act of 2005.

The FFO administers over 5 million acres, including split mineral estate in west-central Utah (Figure 1). The FFO analysis area includes Juab and Millard counties. This EA analyzes the potential impacts of leasing lands with federal minerals managed by the BLM in the FFO. It also incorporates leasing of parcels nominated by industry for the March lease sale which provides an analysis basis to make leasing decisions on nominated parcels.

Subsequent environmental review documents prepared for specific leasing proposals would tier to, or incorporate by reference, relevant sections of this programmatic EA. Tiering to this EA would allow the BLM to develop leasing proposals that concentrate on the issues relevant to a particular nominated lease. This EA will be used to determine the environmental protection measures that could be included as stipulations, lease notices, special conditions or restrictions on future leases as necessary to protect the resources within the FFO. The analysis serves to verify conformance with the approved Land Use Plans (LUPs) and provides rationale for choosing to lease or defer lands from leasing as well as for attaching additional lease stipulations and notices to protect other resources and uses.

1.1 Purpose and Need

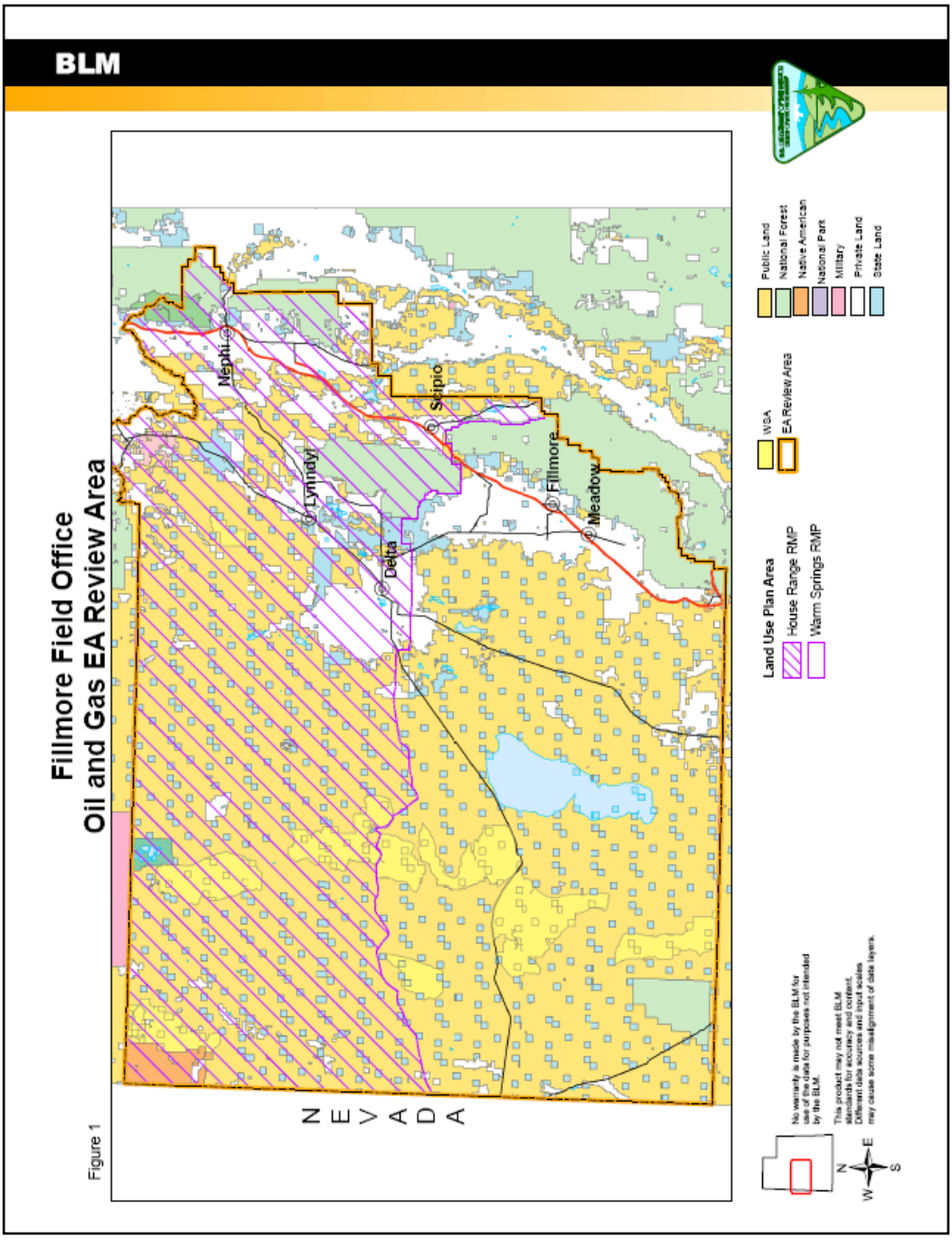
The purpose of this action is to meet the LUPs' objectives for minerals and energy management by issuing leases for oil and gas resources, while protecting other resources and uses on public lands. The RMPs state that the desired outcome for minerals and energy management is to "provide for exploration, development and use of minerals on public lands consistent with applicable laws and regulations …" (HRRA RMP, p. 75; WSRA RMP, p. 43). Due to additional information acquired and changes in the human environment that have occurred since the completion of the current LUPs and their supplements, additional analysis of potential environmental consequences of leasing is needed to address new information such as wildlife/fisheries habitat changes/mapping, listed and sensitive species, species with an approved Conservation Agreement, and recreation trends in the analysis area.

Leasing is conducted to meet requirements of the Mineral Leasing Act of 1920, as amended, the Mining and Minerals Policy Act of 1970, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Reform Act) and Federal Land Policy and Management Act (FLPMA). Continued leasing is necessary to maintain options for production of oil and gas resources as companies seek new areas for production or attempt to locate and develop previously unidentified, inaccessible or uneconomical reserves. General oil and gas leasing procedures and instructions are available on

the Bureau of Land Management's Utah State Office website for oil and gas leasing at: http://www.blm.gov/ut/st/en/prog/energy/oil_and_gas.html.

Offering parcels for competitive oil and gas leasing provides for the orderly development of fluid mineral resources under BLM's jurisdiction in a manner consistent with multiple use management. This requires that adequate provisions are included with the leases to protect public health and safety and assure full compliance with the spirit and objectives of NEPA and other federal environmental laws and regulations.

Figure 1. Analysis Area with RMP Delineations.



1.2 Conformance with Applicable Land Use Plan and Supplemental Decisions

Pursuant to 40 CFR 1508.28 and 1502.21, this EA tiers to and incorporates by reference the information and analysis contained in the Proposed RMP/Final EISs, RODs and RMPs for the House Range (HR) and Warm Springs (WS) Resource Areas (RAs). The HRRA RMP was, approved in October, 1987 and the WRSA RMP was approved September 1986. The proposed action is in conformance with the HR and WS RMPs because it is specifically provided for in the planning decisions. Oil and gas leasing categories are identified in each of the RMPs. The HRRA RMP (BLM 1987; page 76 and Map 9) and WSRA RMP (BLM 1986; page 45 and figures 2-12) categorize all lands in the oil and gas leasing planning area that are available for leasing. Stipulations that would be attached to offered leases are contained in the Decision Records (DRs) for the HRRA and WSRA RMP Oil and Gas Leasing Implementation EAs (BLM 1988a and 1988b) ("supplemental EAs").

The Proposed RMP/FEISs and Implementation EAs analyze the environmental consequences of oil and gas leasing in the Fillmore Field Office. The RMPs establish four leasing categories. The analyses in the Proposed RMP/Final EISs and the Oil and Gas Leasing Implementation EAs are based on an estimate that exploration wells would continue to be drilled in the Fillmore Field Office at an average rate of about one well every year with a low success rate for finding commercial quantities. The projected total surface disturbance from oil and gas activities occurring over 10 years is 60 acres. Although developed over 20 years ago, the RFD has not been exceeded. As noted previously exploration drilling has not been extensive and results have not been encouraging. Based on geology and previous results, potential for oil and gas occurrence is not high (again the extreme eastern part of the area may be an exception) and discovery and field development is unlikely. Site-specific NEPA analysis will be required for each APD filed and any field development will require additional NEPA analysis, which may result in an amendment to the RMPs or drafting of an EIS.

1.3 Relationship to Statutes, Regulations, or Other Plans

The proposed and other action alternatives are consistent with federal environmental laws and regulations, Executive Orders, and Department of Interior and the BLM policies and are in compliance, to the maximum extent possible, with state laws and local and county ordinances. It is the policy of the BLM as derived from various laws, including the Mineral Leasing Act of 1920, as amended, and the Federal Land Policy and Management Act of 1976 (FLPMA, Section 103(l)), to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs. As such, the proposed alternatives would meet requirements of the Mineral Leasing Act of 1920 as well as the Mining and Minerals Policy Act of 1970 and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Reform Act). The Reform Act directs the BLM to conduct quarterly oil and gas lease auctions within each state whenever eligible lands are available for leasing. The State of Utah Energy Policy (Utah Code Sec. 63-53b-301) states that the development of non-renewable energy resources including natural gas and oil will be promoted.

Juab County Land Use Code allows the development of oil and gas wells as a permitted use in districts zoned as Agricultural, Residential Agriculture, Growth Areas and Outlying; and as a conditional use in districts zoned as Grazing, Mining, Recreation, and Forestry. Juab County allows for leasing in the following zones: A1-160 (Agricultural), Grazing, Mining, Recreation, and Forestry (GMRF-160), and Outlying Areas. The Juab County Land Use Code is available online at:

http://www.co.juab.ut.us/County/planning/Juab%20Land%20Use%20Code%207%2006.pdf.

The Millard County General Plan, Federal and State Lands Element County Goals, Objectives and Implementation Strategies states that the County allows for multiple uses to occur on Federal and State lands within the County. These uses include, but are not limited to, mining and mineral exploration and extraction. Furthermore, the county may support temporally limiting recreation access through an area to allow mineral exploration and development. The County would pursue re-establishing "multiple uses" within these areas as doing so becomes feasible. Millard County allows leasing in the following zones: Range and Forest 20 (RF 20), Agricultural 20, Agricultural (T23S, R5W, Section 7; Lots 1&2), Residential (part of 21S, 4W, Sec17). The Millard County General Plan is available online at:

http://www.millardcounty.org/Default.asp?WCI=CityDocument&DOCUMENT=cities/millardcountyut/docs/uploadedpages/planning.htm.

A lease for oil and gas gives a lessee the right to drill and produce, subject to the lease terms, any special stipulations, other reasonable conditions, and approval of an Application for Permit to Drill (APD). In approving an APD, or when any surface disturbing activity may occur, the BLM reviews the adequacy of the current environmental analysis and reviews compliance with NEPA requirements. The BLM may conduct additional site-specific evaluations at that time and may require additional reasonable mitigation measures in the approval of an APD, consistent with the lease terms and stipulations. Holders of oil and gas leases are required to comply with all applicable federal, state, and local laws and regulations including obtaining all necessary permits required should lease development occur.

As new Conservation Agreements and Strategies are prepared and approved in consultation with the Fish and Wildlife Service and/or Utah Division of Wildlife Resources, the corresponding elements of those documents will be incorporated in future oil and gas leasing actions. The current list of Conservation Agreements and Strategies include: Bonneville cutthroat trout, least chub, Columbia spotted frog, and northern goshawk.

Other documents reviewed and incorporated into this EA include but are not limited to:

1. BLM grazing allotment management plans, wild horse herd management plans, ACEC and WSA management plans, special recreation area management plans, weed management plans and vegetation treatment EIS, and appropriate Instruction Memorandums and Bulletins;
2. State big game management plans, State of Utah Implementation Plan, Utah's 303 d list of Impaired Water, culinary water source protection plans, recreation management plans, and other wildlife/fisheries management plans; and
3. Federal soil surveys, historic trail management plans, threatened and endangered & special status species lists, Executive Orders (for management of floodplains, wetlands, hunting opportunities, farmlands, and environmental justice), US Forest Service management plans, and waterfowl management plans.

BLM will review and incorporate future management plans or other documents prepared by partners or regulatory agencies while administering the oil and gas leasing program. For example, relevant components of an approved plan, drinking water source protection plan, or Conservation Agreement would be incorporated. Changes to listed species or impaired waters for example would be addressed in subsequent NEPA documents.

1.4 Identification of Issues

Environmental issues (including those addressed by supplemental authorities) and resource concerns for the oil and gas leasing parcels were identified by an Interdisciplinary Team (ID Team) of resource professionals assembled by the FFO under the assumption of the reasonably foreseeable development (RFD) scenario. This process included a review of previous lease sales (including concerns presented in past protests) and past coordination with cooperating federal and state agencies with jurisdictional responsibilities or specialized expertise in the area including the United States Fish and Wildlife Service (FWS), Utah Division of Wildlife Resources (UDWR) and Native American Tribes.

The issues analyzed in this EA are impacts on:

- Areas of Critical Environmental Concern
- Cultural Resources
- Native American Religious Concerns
- Floodplains
- Threatened, Endangered, or Candidate Animal Species
- Fish and Wildlife including Special Status other than FWS candidate or listed species
- Vegetation including Special Status Plant Species other than FWS candidate or listed species
- Invasive, Non-native Species
- Water Quality
- Wetlands/Riparian Zones
- Wilderness/Wilderness Study Areas
- Rangeland Health Standards and Guidelines
- Livestock Grazing
- Visual Resources
- Recreation
- Geology and Mineral Resources
- Lands/Access
- Wilderness Characteristics

The Interdisciplinary Team Analysis Record Checklist (Appendix A) documents those resources that are not present and those issues and resources that were considered but did not warrant further analysis. In addition, the ID Team determined that, under the proposed RFD, the Proposed Action or its alternatives would not contribute to climate change to a degree that detailed analysis is needed or justified.

2 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

The alternatives include: leasing under current land use plans (LUP) (No Action Alternative), leasing with additional resource protection (Proposed Action Alternative), and no leasing. This range of alternatives was selected to provide a comprehensive analysis of the issues identified during the scoping process.

2.1 Alternatives Considered but Not Carried Forward for Analysis

The following alternatives were considered but not carried forward for detailed analysis for the reasons presented.

Leasing with No Surface Occupancy (NSO). NSO could be considered under the Proposed Action alternative; therefore, this alternative was not carried forward as a separate alternative.

Change of Leasing Categories/Decisions Requiring a Land Use Plan Amendment. The proposed action is in conformance with the current LUPs, therefore RMP amendments are not required.

2.2 No Action Alternative – Offer Leases Consistent with Existing Land Use Plan (HRRA and WSRA RMPs including decisions in the Oil and Gas Leasing Implementation EAs)

This alternative represents a continuation of the current management and thus serves as a baseline for leasing lands in the analysis area. Currently areas are offered for oil and gas leasing subject to measures necessary to mitigate adverse impacts, according to the categories, terms, conditions, and stipulations identified in the HRRA and WSRA RMPs. Measures identified in the HRRA and WSRA RMPs are applied through a category system at the time of leasing and the on the ground implementation of those stipulations and categories is accomplished through the APD process (BLM 1986, BLM 1987). There are four fluid mineral leasing categories located within the analysis area (Figure 2).

Category 1 lands comprise 4,472,683 acres within the FFO. Category 1 lands would be available for leasing with standard lease terms (BLM Form 3100-11, Appendix C). In addition to protections provided for under standard terms of the lease, two mandatory stipulations are imposed by policy by the BLM on every lease issued: one refers to the statutory protection of cultural resources and one for the statutory protection of threatened or endangered species, as described below.

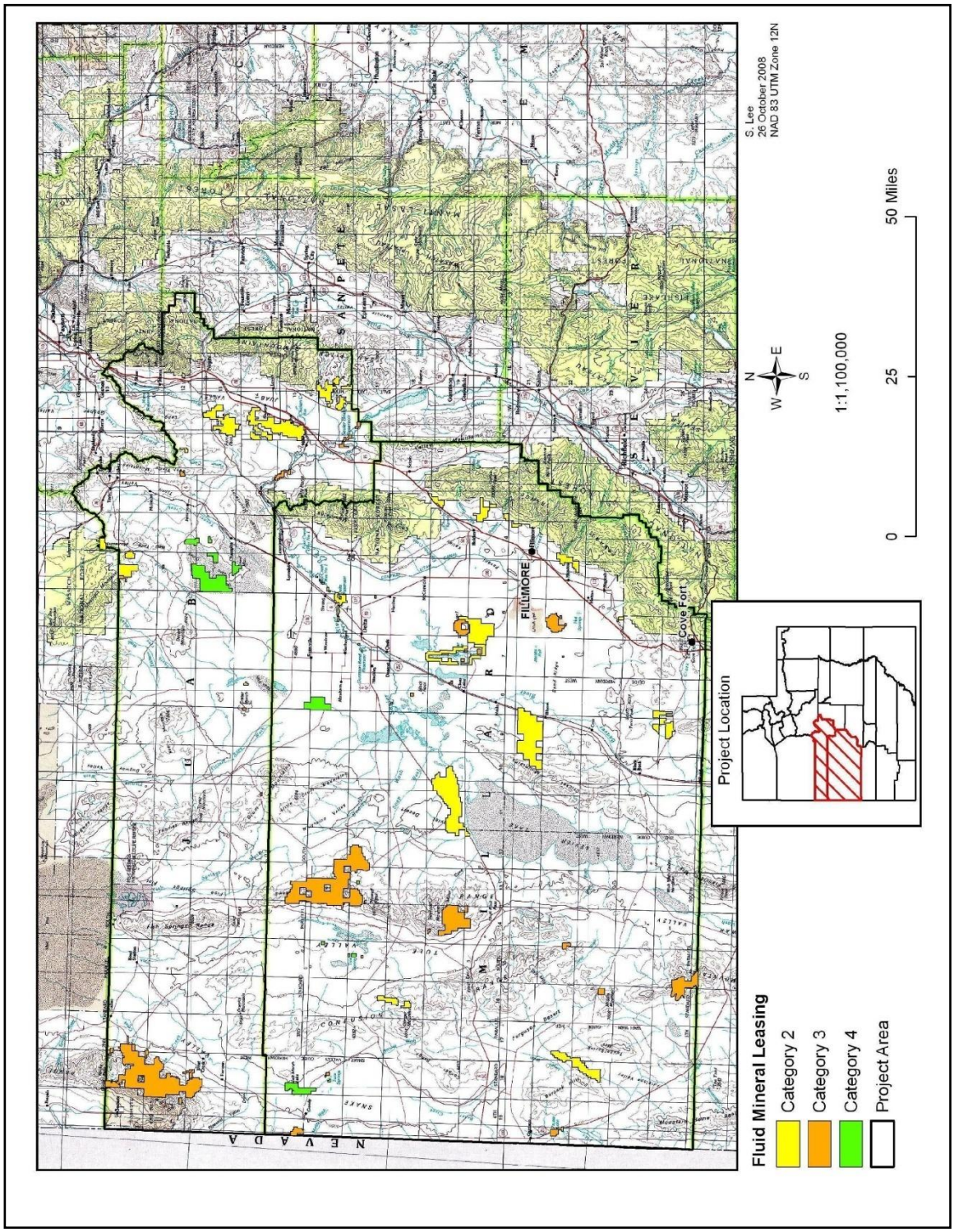
All leases issued subsequent to October 5, 2004, would include the lease stipulation for the protection of cultural resources (per BLM Washington Office Instruction Memorandum No. 2005-03, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing), which states:

> *"This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act, American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated."*

All leases issued would include the lease stipulation for the protection of threatened or endangered species (per BLM Washington Office Instruction Memorandum No. 2002-174, Endangered Species Act Section 7 Consultation), which states:

> *"The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that would contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity until it completes its obligations under applicable requirements of the ESA as amended, 16 United States Code (USC) 1531 et seq. including completion of any required procedure for conference or consultation."*

Figure 2. Fluid mineral leasing categories within the analysis area.[1]



[1] Digitized Category 1 fluid mineral leasing data are not available for Juab and Millard Counties. By definition, Category 1 incorporates those areas which are not within categories 2, 3 or 4.

In addition, BLM regulations at 43 CFR 3101.1-2 allow, at a minimum, for the relocation of proposed oil and gas leasing operations up to 200 meters and/or timing limitations up to 60 days to provide additional protection to ensure that proposed operations minimize adverse impacts to resources, uses, and users.

Category 2 lands comprise 107,096 acres within the FFO. Category 2 lands would be available for leasing with the standard lease terms (BLM Form 3100-11, Appendix C), the two mandatory lease stipulations described above, and the special stipulations identified in the HRRA and WSRA RMPs. These special stipulations include the two mandatory lease stipulations described above, and the special stipulations identified in the WSRA RMP/FEIS, HRRA RMP/EIS, their associated supplements for oil and gas leasing. These special stipulations include timing or Controlled Surface Use (CSU) stipulations for Deer and/or Elk Winter Range, Deer and/or Elk Summer Range, Clear Lake, Critical Mule Deer Winter Range, and Crucial Raptor Nesting Area or limited No Surface Occupancy (NSO) stipulations for Critical Watersheds (Table 1).

Stipulations serve to modify the rights granted by the standard lease terms when the BLM determines that conflicts exist between the relative resource values, uses, and/or users and oil and gas operations that cannot be adequately managed under the standard lease terms or by relocating the proposed operations up to 200 meters or delaying operations by up to 60 days. In addition to stipulations, lease notices can be attached to a lease to inform the lease purchaser of other resource issues that may occur on the parcel.

Table 1. Wildlife habitat stipulations.

Habitat	Acres	Stipulation	Exception
House Range Resource Area			
Deer/elk winter range	26,729	Exploration, drilling and other development activity will only be allowed from May 1 to Nov 30.	Exceptions may be authorized by the BLM if it can be shown that the activity will not have an adverse impact on wintering wildlife.
Deer/elk summer range	320	Exploration, drilling and other development activity will only be allowed from Dec 1 to April 30.	Exceptions may be authorized by the BLM if it can be shown that the activity will not have an adverse impact on summering wildlife.
Critical Watersheds	5,154	No occupancy or other surface disturbance will be allowed within 500 feet of any perennial streams or springs.	Exceptions may be authorized by the BLM if it can be shown that the activity will not have an adverse impact on the watershed.
Warm Springs Resource Area			
Mule deer winter range	7,765	Exploration, drilling and other development activity will not be allowed from Dec 1 to April 30. This limitation does not apply to maintenance and operation of producing wells.	No exceptions
Crucial raptor nesting area	50,485	Exploration, drilling and other development activity will not be allowed from March 1 to June 30. This limitation does not apply to maintenance and operation of producing wells.	Exceptions in any year may be specifically authorized in writing by the Federal surface management agency if it can be shown that the activity would not impact raptor nests.

Category 3 lands comprise 98,549 acres within the FFO. Category 3 lands would be available for leasing only with the NSO stipulation identified in the HRRA and WSRA FRMP/FEIS for those

leases where adverse impacts would occur through surface use of the land by oil and gas exploration and development. This stipulation generally applies to Gandy Mountain Caves, Deep Creek Mountains, Wah Wah Mountains, Notch Peak, Pahvant Butte, Tabernacle Hill, Crystal Peak, Fossil Mountain, Great Stone Face, Sunstone Knoll, County Landfill, Paul Bunyon's Wood Pile, Joy Townsite, Swazey Mountains, Sevier Bridge Reservoir, Fumerole Butte, Riparian Areas at: Swazey Springs, Twin Springs, Cane Springs, Antelope Springs, Trout Creek, Tom's Creek, Red Cedar Creek, Indian Farm Creek, Birch Creek, Basin Creek, Cherry Creek, Cow Hollow Creek, Sevier River, Painter Spring, Pruess Lake, South Tule Springs as identified in the HRRA and WSRA RMPs/FEIS, including the oil and gas leasing implementation EAs (Appendix C).

Category 4 lands comprise 21,672 acres within the FFO that have been identified in the WSRA and the HRRA RMPs as closed to leasing. In addition, there are 371,763 acres of wilderness study area lands that have been closed to leasing under the Interim Management Policy for Lands Under Wilderness Review (H-8550-1) and leasing regulations at 43 CFR 3100 (2) (viii) which also prohibits leasing in WSAs. Management decisions to restrict leasing in the WSAs were not established at the time the RMPs were completed.

Under this alternative, if BLM finds that there are no significant changes in circumstances or conditions that would require supplementation of the existing analyses (40 CFR 1502.9), BLM may comply with NEPA for future leases sales through preparation of a Documentation of Land Use Plan Conformance and Determination of NEPA Adequacy (DNA) to document that the impacts of leasing specific parcels have been sufficiently analyzed in this programmatic EA or other existing NEPA documents. If BLM finds that additional analysis is required, an EA or EIS would be prepared prior to the sale of the parcels.

2.3 Proposed Action Alternative – Offer Leases with Additional Resource Protective Measures Consistent with Existing Lease Categories

The Proposed Action alternative would lease lands within the analysis area (Figure 1) subject to additional resource protective measures beyond the terms and stipulations described for the No Action alternative and beyond that which could be achieved through relocation of the proposed activity up to 200 meters and/or timing restrictions of 60 days or other existing administrative actions. The effects of implementing the Proposed Action alternative would be similar to the No Action alternative with the caveat that, under this alternative, more stringent measures would be applied to some leases to further protect specific resources (Table 2). Lease Notices have been developed for conservation measures and would be applied on specific lease parcels as warranted by subsequent ID Team review. It may be necessary to create new Lease Notices in the future to protect the resources within FFO.

Table 2. Conservation Measures Included in Proposed Action Alternative.

Additional Conservation Measures Included the Proposed Action Alternative
Expanding the geographic area (update according to DWR range maps) and the use of timing limitations **for crucial winter mule deer, elk, and pronghorn habitat** beyond that identified in the WSRA and HRRA RMPs and the oil and gas implementation decisions. Also specifying timing limitations for **crucial elk calving, deer fawning habitat, and pronghorn fawning habitat** where the WSRA and HRRA RMPs and the oil and gas implementation decisions are silent.
Protection provided where needed for **big horn sheep** habitat and timing limitations may be needed to protect crucial lambing and rutting seasons.
Additional protection of **raptors** wherein surveys would be required whenever disturbances and/or occupancy are proposed in association with oil and gas exploration and development within potential raptor protection buffer areas. Based on the results of the field survey, the

Additional Conservation Measures Included the Proposed Action Alternative
authorized officer will determine the appropriate buffers and timing limitations.
No surface disturbance or use allowed within 500 feet of **riparian areas**.
Additional protection or surveys may be required whenever disturbances and/or occupancy are proposed in association with oil and gas exploration and development due to the presence of a C**onservation Agreement species and/or habitat**. To comply with the intent of the Conservation Agreement, special requirements may be necessary to meet the obligations of the agreement.
No surface use or otherwise disruptive activity would be allowed that would result in direct disturbance to populations or individual special status plant and animal species, including those listed on the **BLM sensitive species** list and the Utah sensitive species list. The lessee/operator is given notice that lands in this parcel have been identified as containing potential habitat for species on the Utah Sensitive Species List. Modifications to the Surface Use Plan of Operations may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, Migratory Bird Treaty Act and 43 CFR 3101.1
Timing limitation for the protection of **waterfowl**. Disruptive activities near surface waters with nesting waterfowl, wintering waterfowl, or during migration periods would be discouraged.
Additional protection of **sage-grouse leks, brooding, and winter concentration habitat** wherein surveys would be required whenever disturbances and/or occupancy are proposed in association with oil and gas exploration and development within these potential sage-grouse habitats. Based on the results of the field survey, the appropriate buffers and timing limitations.
No surface disturbing activity would be allowed within 300 feet of **pygmy rabbit habitat**.
Controlled surface use would be applied to areas where there are **erodible soils or steep slopes**.
Areas containing **VRM II and III** classifications will be required to meet VRM class objectives.
The scenic landscape values or other attributes associates with **historic trails or properties** will require appropriate consultation to maintain its integrity for which it was designated.
Additional protection of **migratory birds** wherein surveys would be required whenever disturbances and/or occupancy are proposed in association with oil and gas exploration and development within priority habitats. Based on the results of the field survey, the authorized officer will determine the appropriate buffers and timing limitations.
In order to manage public water systems, **drinking water protection zones** will be recognized and the BLM with work in coordination with the State of Utah to implement appropriate actions.

This additional protection would be necessary to protect resources to comply with agency regulations or policies (as opposed to compliance with non-discretionary laws or statutes). Resource protective measures would be applied as stipulations, notices, or administrative actions as part of the lease offering and the conditions of approval (COAs) for an APD (Appendix B). In general, without amending RMPs, new stipulations could only be applied to the extent that the leasing category provides for the application of stipulations. Lease notices applied to any category would effectively provide the same level of protection to the resource and would be considered at the APD stage. Additional protective measures could in some cases effectively result in NSO on portions of a lease. Application of NSO for protection of a resource would preclude any development or disturbance of the land surface associated with the area where the resource is present. Thus establishment of wells or well pads or construction of roads, pipelines, or power lines would not be allowed within the area; any oil or gas extracted from the area would

have to come from wells directionally drilled at an angle underground from adjacent or nearby lands.

Under this alternative, additional, more restrictive resource protection would be applied to ensure compatibility between exploration and development activities and the surface utilization for projected developments. The additional protective measures considered in this alternative are of three types: timing limitations, controlled surface use (CSU) restrictions, and no surface occupancy (NSO) restrictions. These measures would provide additional protection to specific resources beyond the standard lease terms and stipulations described for the No Action alternative.

2.4 No Leasing Alternative

The standard lease terms and stipulations implemented under the No Action alternative and the additional resource protective measures included in the Proposed Action alternative are not sufficient to protect some resources and so additional protections would be necessary. Specific resources would receive additional protection under this alternative in the form of application of a no leasing category.

Under this alternative the BLM may determine that the only way to adequately protect a particular resource in a specific area is to not allow leasing in that area. The No Leasing Alternative is not in conformance with the existing land use plans and thus is not a viable alternative considered for implementation; however, for analysis purposes, it provides for a full range of alternatives and comparison of impacts. Additionally, if significant impacts are identified through this analysis in particular areas, BLM could make a decision to defer those areas until such time that a land use plan amendment could be completed, which would change the category of a particular area to No Leasing.

3 DESCRIPTION OF AFFECTED ENVIRONMENT

This chapter describes the environment that would be affected by implementation of the alternatives described in Chapter 2. Aspects of the affected environment described in this chapter focus on the relevant issues. Only those aspects of the affected environment that are potentially impacted are described in detail (Appendix A).

3.1 General Setting

The analysis area is comprised of approximately 5 million acres of BLM-administered lands and minerals in Juab and Millard Counties, Utah. The area's land ownership pattern is fragmented between private, state, and federally-managed lands (Figure 1).

The area is within the Basin and Range physiographic province, which generally consists of north-south trending mountain ranges separated by broad arid valleys with interior drainage and vegetated with sagebrush and other plants typical of the Great Basin. The soil in this area consists mostly of aridisols, an iron-rich desert soil. Because of the dry climate in which they are found, these soils typically are not used for agricultural production unless irrigation water is available. The valleys throughout the region contain a variety of native grasses, junipers, and pinyon pines, while xerophytic and desert shrub vegetation is common in lower and drier areas.

The climate of the area is characterized by cold winters and hot summers – average minimum temperatures are around 17°F (December – January) and average maximum temperatures are in the 90s F (July). Average annual precipitation ranges from about 10 to 13 inches depending on

elevation, with approximately 50 percent of the moisture coming during the period of plant growth between April and September (WRCC 2008).

The area has had a relatively long socio-cultural history of resource use and development. Since the late 1800s agricultural pursuits such as farming and cattle and sheep ranching have dominated the character of the general region.

3.2 Elements of the Human Environment and Other Resources Brought Forward for Analysis

Elements of the human environment and other resources brought forward for analysis are identified in Section 1.4. Elements which are not present in the area and therefore are not addressed in this EA include Threatened, Endangered, or Candidate Plant Species and Wild and Scenic Rivers. Other resources that may be present in the analysis area but would not be affected (for the reasons listed in Appendix A) include Air Quality; Environmental Justice; Wastes (hazardous and solid); Woodland/Forestry; Farmlands (Prime and Unique); Soils; Paleontology; and Socio-economics. The resources described in this chapter represent only those elements which could potentially be impacted by the proposed action or alternatives. This narrative describes the resources and uses that are analyzed in Chapter 4.

3.2.1 Areas of Critical Environmental Concern

An Area of Critical Environmental Concern (ACEC) is identified through land use planning as needing special management designation to protect and prevent irreparable damage to relevant and important values such as historic, cultural, or scenic values; fish and wildlife resources, or other natural systems or processes; or to protect life or provide safety from natural hazards (Figure 3). There are seven ACECs in the analysis area (Table 3). Oil and gas categories are more restrictive in these areas to protect the relevant and important values of the ACEC. Gandy Mountain Caves, Gandy Salt Marsh, Pahvant Butte, and Tabernacle Hill are Category 3 areas; they are open lease areas subject to no surface occupancy. Rockwell Natural Area, Wah Wah Mountains, and Fossil Mountain are Category 4 areas. Category 4 areas are closed to leasing.

Table 3. Areas of Critical Environmental Concern in the analysis area.

ACEC	Acres	Relevant And Important Value
Fossil Mountain	1,920	Prehistoric life form
Gandy Mountain Caves	1,120	Geologic feature
Gandy Salt Marsh	2,270	Unique Biological and Riparian
Pahvant Butte	2,500	Inactive volcano / peregrine falcon
Rockwell Natural Area	9,630	Sand dunes
Tabernacle Hill	3,567	Unusual volcanic features
Wah Wah Mountain	5,970	Biological community
Total	**26,977**	

3.2.2 Cultural Resources

The NHPA, as amended in 1992 (16 USC 40 et. seq.), requires government agencies to take into account the effects of their actions on properties listed or eligible for listing on the National Register of Historic Places (NRHP). The term "cultural resources" refers to any historic or prehistoric resource. The term "historic property" specifically refers to a cultural resource that has been determined eligible for inclusion to the National Register of Historic Places (NRHP). These terms imply a great deal more than prehistoric and historic material remains, ruins, or standing structures. They encompass a wide range of material remains that have the potential to provide information about the occupation of the analysis area. These terms also refer to any such

records related to such a resource or property. A total of five classes of historic properties (districts, buildings, structures, sites, and objects) are defined that are eligible for listing on the NRHP (36 CFR 60.3). Usually, historic properties are classified within more than one of these categories:

1. Archaeological Site

   A site is a concentration of cultural remains inferred to be the location of specific human activities.

2. Archaeological Features

   A feature is defined as nonportable cultural remains including but not limited to hearths, storage pits, firepits, architecture, or undisturbed layers of deposited material.

3. Artifacts

   Artifacts are portable cultural remains that exhibit evidence of human use or alteration.

4. Culturally Altered Landscape

   A culturally altered landscape is a landscape modified by human activity, including but not limited to roadways, agricultural fields, farming terraces, and irrigation ditches, or other water control devices.

5. Historical Site

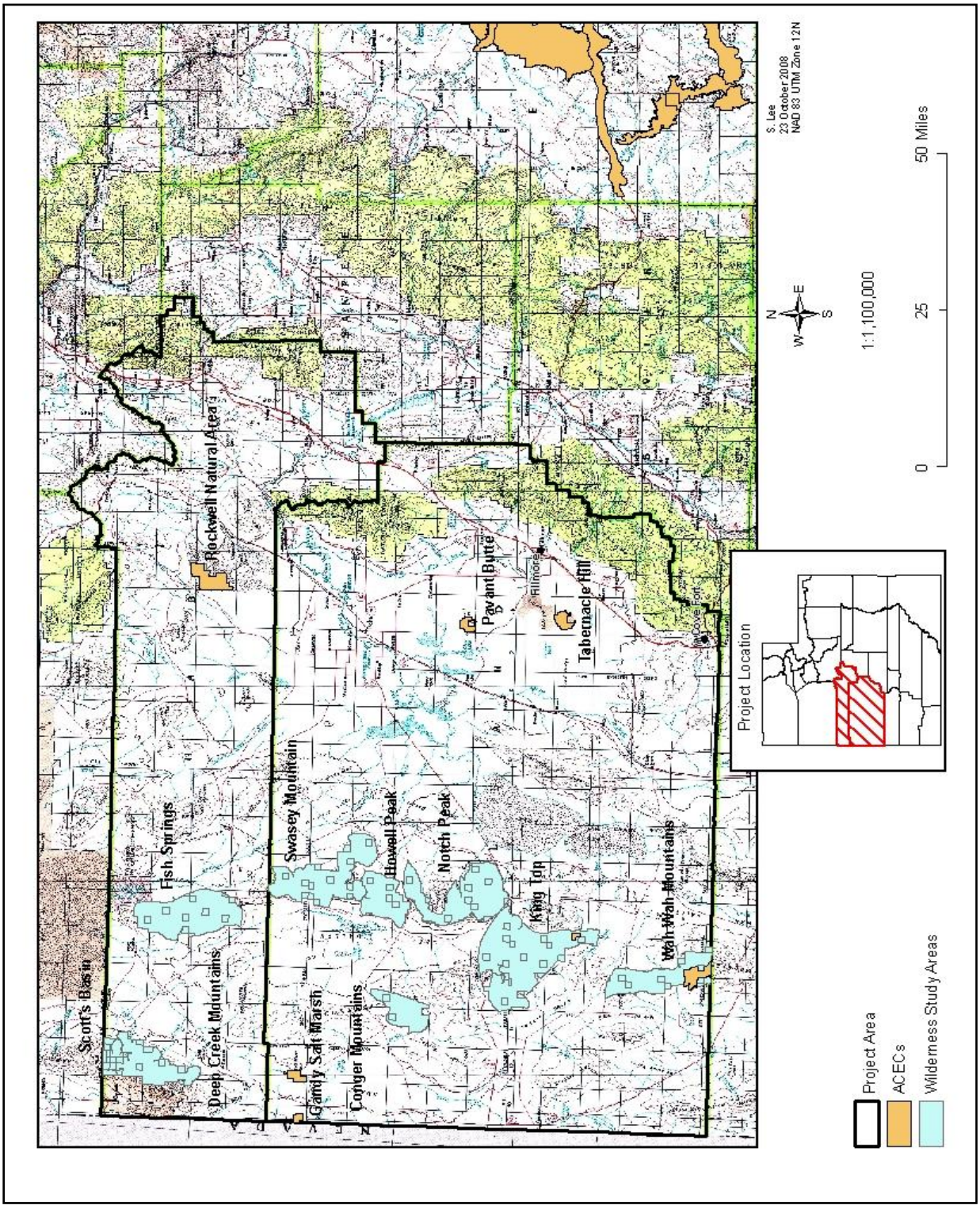
   A historic site is a location, building, or neighborhood more than 50 years old.

Cultural resources also include places that are important to a specific group's history and traditions. These places are often referred to as Traditional Cultural Properties (TCPs):

> A traditional cultural property may encompass different site types such as prehistoric campsites, rock art, burials, rock shelters, lithic scatters, and village sites. Additionally, they can also consist of non-archaeological site types such as lakes and springs, land features, and traditional gathering or collection areas (16 U.S.C. 470, Section 101 [d] [6] [a].

The analysis area is located within the eastern portion of the Great Basin culture area (D'Azevedo 1986). The geographic limits of the Great Basin part of the eastern province extend from Goose and Grouse Creek and the Raft River Mountains on the north, the Pine Valley Mountains of southern Utah in the south, the Wasatch Range on the east, and the Utah-Nevada border on the west. This is essentially the Bonneville Basin and adjacent mountain areas. This is an area of large and varied archeological resources, with sites reflecting occupation and use by various groups over the past 12,000 years, including big game hunters of the Paleoindian Period, Archaic hunters and gatherers, Fremont agriculturists, and, most recently, the Numic Cultures. As such, Native American groups, particularly local groups, have expressed interest in land use planning in the area, especially if it involves ground disturbing activities. The following is a summation of the prehistory and history of the area.

Figure 3. Areas of Critical Environmental Concern and Special Designations



Paleo-Indian Period (Approximately 12,000 – 7000 B.P./5000 B.C.)

The Paleo-Indian period is generally associated with an adaptation to big game, mega-fauna hunting in a plains environment. Archaeological evidence for human occupation in Utah during the Paleo-Indian period is generally limited to surface finds of diagnostic projectile points. The earliest projectile point forms in Utah are associated with fluted Clovis, Folsom, and from pre-Archaic cultures transitional Lake Mojave lanceolate projectile points types of the Western Pluvial Lakes Tradition (11,000 to 7000 B.C.). Most of these finds were in the eastern two-thirds of the state, although Paleo-Indian projectile points have been found on the surface within the potential analysis areas (Copeland and Fike 1988).

Archaic Period (9000 B.C. – A.D. 300)

Following the Paleo-Indian period the eastern part of the Great Basin and adjacent Colorado Plateau area was occupied by a regional manifestation of a highly adapted, mobile hunting and gathering culture. In the early Holocene, the megafauna became extinct and subsistence strategies adapted to the new environment. Early Archaic sites with stemmed projectile point types also frequently contain lanceolate points with concave bases. The dated materials are associated with a period when Pleistocene vegetation patterns were giving way to modern distributions, and human subsistence and settlement patterns may have been somewhat different from patterns established during the Holocene.

There was an increase in variety of stone grinding implements used for plant and seed processing. The adaptation is characteristic of the Intermountain West and persisted for up to 6,000 years. The prehistoric cultures of the eastern Great Basin may be viewed as variants of what has been described as the Desert Culture or Desert Archaic adaptation that occurred throughout the western United States.

Projectile point types are the primary chronological marker having been found in dated, stratified contexts and serve to divide the archaic into three phases: Early, Middle, and Late (Holmer 1978). However some types, such as the Elko series points, are found throughout the history of the Archaic Period.

Initially the Pinto Period (5000-2000 B.C) followed the drying of the pluvial lakes and included the Pinto point types and associated additional tools and the use of food caches suggests a shift to storage as a strategy for food distribution over time and across seasons. This early archaic of the eastern Great Basin is divided into three sub periods: the Bonneville (9,000 B.C. to 7500 B.C.); the Wendover period (7500 B.C. to 4000 B.C.) and the Black Rock period (4000 B.C. to 1300 B.C.) and correspond to early Archaic period phases defined elsewhere in the Great Basin.

The presence of primarily Wendover sites in the region occur in a variety of altitudinal and topographic settings implies a mobile seasonal hunting and gathering subsistence economy with a strict division of labor. The differential use of upland and basin, or lowland sites is considered to have been dependant on the seasonal movement of game and ripening of plant resources. The emphasis on foraging was gathering as many food sources as possible thereby increasing caloric consumption. During the Black Rock subperiod as the environment became more arid, the numbers of sites grew and appear to shift to upland areas.

Sedentism and more intensive focus on local resources including local obsidians during appears to have caused a greater increase in the number of pit-house residential sites in the Great Basin during the Middle Archaic period (Madsen and Simms 1998). The Gypsum period dates to between 2000 B.C. and A.D.500 and is indicted by shift back to seasonal use of lowland water sources during a moister climate and evidenced by Gypsum points, and split-twig figures are a particular indicator of the Gypsum period. Gypsum sites in Utah include Amy's Shelter, Sudden

Shelter, Cedar Siding Shelter and Cowboy Cave. A continuation of the Black Rock subperiod cultural, however, pervades through the Middle Archaic. The bow and arrow came into use late in the Desert Archaic of the northwestern Great Basin, replacing atlatl projectiles by the end of the period. The Saratoga followed the Gypsum period during which associated projectile point styles (i.e., Rose Spring and Eastgate) were smaller, but generally similar to previous forms. The basketry complex continued without major change, but one-rod-and-bundle foundation forms become dominant.

Archaic sites, particularly from the middle and late periods, are relatively abundant throughout the analysis area. Almost all of the Archaic sites are characterized as "scatters" of widely varying sizes and complexities, but marked by often abundant chipped stone debris from artifact production, chipped stone artifacts (atlatl dart points, scrapers, knives, drills, blades, etc.), very often ground stone (manos and metates), and occasionally hearths, alignments, and other minor features. In the analysis area, there are very few caves and rockshelters, which were generally favored as occupation sites by the Archaic people.

Formative Period (A.D. 300 – 1200)

Excepting some nomadic hunting traditions that persisted until historic times, extending from the Middle to the Late Archaic period in the northern Colorado Plateau and eastern Great Basin transitions with the development of sedentary adaptations that were coincident with the adoption of a horticultural subsistence base. These traits became elements of the Fremont culture. By A.D. 400 or 500, small quantities of pottery appear, occasionally accompanied by maize. Initially, the introduction of maize may have been minimal. Gathering of piñon nuts is well documented for the first time during this transitional period. By A.D. 800, settled Fremont villages with pit houses and above- or below-ground storage units and maize, beans, and squash horticulture had begun to occur.

The Fremont Culture developed in an area of considerable environmental diversity, probably from an Archaic base that may, over time, have become regionally specialized. The Fremont Culture has been difficult to characterize in terms of a uniform set of cultural traits or a single cultural pattern. However, a village farming pattern distinguishes Fremont from both Archaic and Shoshone cultures. Their horticulture and sedentary villages never developed to the extent of their Anasazi neighbors in the Southwest. Hunting and gathering remained important in the analysis area where reliance on game and wild plant foods appears to have outweighed the contribution of horticulture to the subsistence base. Also, their architecture was crude in comparison to contemporary Anasazi groups.

In terms of overall culture history of the region, the Fremont is an aberration. For a period of about 900 years the earlier desert foragers were replaced by more sedentary horticulturalists who lived in scattered farmsteads or small villages, made pottery, built substantial dwellings and storage structures, and developed a unique artistic tradition manifested in rock art and modeled clay figurines. The introduction of the bow-and-arrow and its associated smaller projectile points flourished at this time.

The Fremont culture designation has applied to several related, but geographically diverse, archaeological complexes centered in Utah. Five regional sub cultures are evident in the Fremont Period. These include the Uinta, San Raphael, Parowan, Sevier and Great Salt Lake. The Sevier variant dominated in the BLM Fillmore Field Office area, and sites are expressed as permanent settlements on marshlands and perhaps temporary, seasonal settlements in areas away from water. These sites can have both pit-houses and adobe surface rooms.

The Fremont Culture was variably influenced by Southwestern Pueblo cultures, but according to some authors the Fremont Culture is probably best viewed as a product of indigenous traditions. Trade and other contacts with the Southwest do not seem to have been close, and traits that were introduced from the south were modified and adapted by the Fremont peoples to suit requirements in their less hospitable environment. The source or route of maize introduction is unclear. The several radiocarbon dates from northern Utah that date from A.D. 400 to 700 suggest that the Fremont Culture developed too early for Basketmaker III influence to have played an important role. One source of southern borrowed traits may be from the Mogollon area, where early sites share a number of striking similarities to the Fremont Culture (i.e., including the "Utah" type metate).

Late Prehistoric Period (A.D. 1200 – 1826)

Linguistic evidence has suggested members of the Numic family of languages arrived out of southeastern California into Nevada and Utah by approximately A.D. 1000. By around A.D. 1200, this expansion of Numic-speaking peoples into the area seems to have replaced or displaced the Fremont culture (Bettinger and Baumhoff 1982). Archaeologically known as the Shoshonean Period, the primary material culture consists of Intermountain Brownware pottery and the Desert Side notched and Cottonwood Triangular arrow points. Subsistence strategy appears to shift back to one largely focused on hunting and gathering; however, there is some evidence of at least limited reliance on horticulture. The Numic-speaking peoples, including the Ute, Shoshone and Paiute, were the occupants of the Great Basin upon the initial arrival of Europeans in 1776. Sites associated with the Utes, who were occupying the area at the time of white contact, become definable at about the same time as the Fremont demise. Reflected is a return to a transient lifeway supported by hunting and gathering; existing sites in the analysis area often appear to be clustered around springs.

Ute Consolidation and the Establishment of the Uintah-Ouray Reservation (AD 1847-1890)

The arrival of Mormons in the area west of the Wasatch Range in 1847 and their subsequent expansion to the south had a drastic impact on the western Ute bands. Epidemic diseases began to substantially reduce Ute populations as immigrating Mormons expropriated land and other resources which were routinely used by the Ute.

History

Early Europeans to the area included Francisco Vasquez de Coronado who may have passed into what would become southern Utah in 1540 and the Dominguez-Escalante Expedition from Santa Fe in 1776 reaching as far north as Utah Lake. This was followed only be trappers including Jedediah Smith and Jim Bridger in the 1800s, and soon afterward the Mormon Pioneers in1846. Gold and silver brought miners on the way to the mine fields in Nevada and California. Ranchers and farmers, supported by several legislative acts such as the Homestead Act of 1862, the Desert Act of 1877 and the Taylor grazing Act of 1934, caused a population influx of people looking for inexpensive land. The Pony Express National Historic Trail was used by young men on fast paced horses to carry the nation's mail across the country, from St. Joseph, Missouri to Sacramento, California, in the unprecedented time of only ten days. Organized by private entrepreneurs, the horse-and-rider relay system became the nation's most direct and practical means of east-west communications before the telegraph. Though only in operation for 18 months, between April 1860 and October 1861, the trail proved the feasibility of a central overland transportation route, and played a vital role in aligning California with the Union in the years just before the Civil War. Railroads furthered the emigrant movement and promoted trade and travel. The Topaz Relocation Center in Delta was a Japanese –American internment camp housing Japanese Americans during World War II.

3.2.3 Native American Religious Concerns

Native American concerns are incorporated into the discussion of Traditional Cultural Properties (TCPs) (defined in Section 3.2.2); some previously examined locations in the analysis area have TCPs important to maintaining the cultural identity of the Paiute Goshute and Ute Tribes. *Executive Order 13007, Indian Sacred Sites*, states that in order to protect and preserve Indian religious practices, the agency with responsibility for the management of federal lands shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoid adversely affecting the physical integrity of such sacred sites.

BLM policy is to consult with local Native American Tribes on all BLM actions having the potential to impact their interests. The Paiute Tribe of Utah, Uinta Ouray Ute Tribe, Skull Valley Goshute Tribe, Confederated Tribe of the Goshute Reservation and the Kanosh Band of the Paiute Tribe were contacted by letter, regarding the current action being considered within this EA for oil and gas leasing in the area (Appendix E).

3.2.4 Floodplains

The analysis area has not been mapped by HUD or FEMA, however floodplains associated with riparian/wetland areas are known to exist in the analysis area. Figure 10 identifies the major wetland and riparian areas within the FFO.

3.2.5 Threatened, Endangered or Candidate Animal Species

Under Section 7 of the ESA, the BLM is required to consult with the FWS on any proposed action which may affect federally listed threatened or endangered species or species proposed for listing. Programmatic Section 7 consultation efforts covering a wide variety of actions associated with the current BLM land use plans in Utah was completed in 2006. Additionally, BLM personnel completed programmatic Section 7 consultation work culminating in a set of standard, species-specific lease notices for listed species that are to be attached to oil and gas leases offered in Utah. These consultation efforts resulted in a memorandum dated December 16, 2004 concurring with the BLM determination that use of the species-specific lease notices on appropriate lease parcels would result in a "may affect, but not likely to adversely affect" determination for leasing actions involving federally listed species in the state. Additional consultation occurred for the California condor (June 2008) and Canada Lynx (June 2007) since they were not undertaken as part of the consultation effort in 2004. Washington Office Instruction Memorandum No. 2002-174, Endangered Species Act (ESA) Section 7 Consultation, also directs the BLM to attach this stipulation to all leases to protect threatened and endangered species. According to this stipulation, the BLM will not approve any ground-disturbing activity until obligations under applicable requirements of the ESA have been fulfilled, including completion of any required procedure for formal or informal conference or consultation. The ESA stipulation states:

> *"The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that would contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity until it completes its obligations under applicable requirements of the ESA as amended, 16 United States*

Code (USC) 1531 et seq. including completion of any required procedure for conference or consultation."

Although not all special status species are protected by the ESA, 43 CFR 3162.1(a) provides the BLM with broad authority to ensure compliance of lessees with orders of the authorized officer issued for the protection of the environment. Conservation measures associated with this consultation increase the likelihood that the BLM and by association, the lessee, will meet the standard of "may affect, but not likely to adversely affect" for ESA-listed species. It should be noted that BLM may be required to reinitiate Section 7 consultation at the project-level, as necessary, to ensure proper management of listed species in the future. ESA-listed wildlife species with the potential to occur in the analysis area are the Utah prairie-dog (*Cynomys parvidens*), the yellow-billed cuckoo (*Coccyzus americanus*) and California condor (*Gymnogyps californianus*).

Utah Prairie Dog

The Utah prairie dog was federally-listed as endangered in 1973 (38 FR 14678) and down-listed to threatened in 1984 (49 FR 22330). In Utah, this species is currently found in Iron, Beaver, Garfield, Piute, Wayne, Sevier, Kane, Millard, and Sanpete Counties between 5,100 and 9,000 feet. Historically, Utah prairie dog colonies were found as far west as Pine and Buckskin Valleys in Beaver and Iron Counties, and may have occurred as far north as Nephi, Utah, southeast to Bryce Canyon National Park, east to the foothills of the Aquarius Plateau, and south to the northern borders of Kane and Washington Counties. A 50 percent range reduction was estimated from 1925 to 1975. Factors that resulted in the historical decline of Utah prairie dogs were poisoning, drought, habitat alteration – primarily in the form of cultivation to agricultural crops, shooting, and disease (72 FR 7843).

Utah prairie dogs are typically restricted to relatively open plant communities with short-stature vegetation such as alfalfa fields and feed on a variety of grasses and forbs. Utah prairie dogs generally begin breeding in March; the young are born in April and the juveniles appear aboveground in early to mid-May. Prairie dogs are among the most social of animals and live together in large groups called colonies or towns. Most colonies are located in well-drained soils and have numerous burrows with a network of entrances (UDWR 2008e).

There are 8,521 acres of mapped Utah prairie dog habitat located within the analysis area. This includes a half mile buffer as a conservation measure.

Yellow-Billed Cuckoo

Yellow-billed cuckoo was listed as a candidate species in the western Continental United States on July 25, 2001 (66 FR 38611). The historic breeding range of yellow-billed cuckoo was from southern Canada to northern Mexico, west of the Continental Divide from southern British Columbia to northern Mexico. The species is now restricted to scattered blocks of riparian habitat from central California and southern Idaho south to Mexico. In Utah, cuckoos are found in a few scattered sites, mainly along the Green and Colorado Rivers (UDWR 2008f). Habitat for this species has been lost to agricultural and urban development, water diversions, dams, river channelization, floods, fire, livestock grazing, off-road vehicles and other recreational uses, and replacement of native riparian habitats with non-native plants, particularly salt cedar (UDWR 2008g).

Yellow-billed cuckoos use large tracts of riparian habitat (greater than 25 acres) dominated by mature cottonwoods with a dense understory of willows, for nesting and foraging. This species prefers to nest in open woodlands with an understory of dense vegetation, often near streams, rivers or lakes. In the desert southwest, nesting habitat is consistently riparian woodlands, particularly those with an undamaged (i.e., ungrazed) understory, likely because of the lack of dense vegetation away from water. The breeding season is late June to mid-July. Yellow-billed cuckoo habitat has not been inventoried in FFO at this time.

California Condor

The California condor was listed as an endangered species on March 11, 1967 (32 FR 4001) and an experimental, non-essential population was designated in portions of Arizona, Nevada, and Utah in 1996 (61 FR 54043). Interstate 15 in Iron and Beaver Counties forms the western boundary of the experimental population area, while I-70 forms the north boundary. California condors that occur east of I-15 are part of the experimental, nonessential population, and condors found west of I-15 are managed as an endangered species.

Historically the California condor occurred along the Pacific Coast from Baja California north to southern British Columbia, but by the 1930s only about 60 condors remained in six counties in southern California (FWS 1984). Primary causes for condor decline were lead poisoning, shooting, collisions with manmade structures, and loss of habitat. California condors are opportunistic scavengers, feeding only on the carcasses of dead animals, and are capable of flying more than 100 miles in a day in search of carrion. California condors require suitable habitat for nesting, roosting, and foraging. Nest sites are located in cavities in cliffs, in large rock outcrops, or in large trees. Traditional roosting sites include cliffs or large trees, often near feeding sites, and foraging occurs mostly in grasslands.

Approximately 90 condors have been released at two sites in northern Arizona since 1996, with about 60 surviving in the wild. Most of these birds inhabit the Colorado River drainage from the City of Page downstream to the upper end of Lake Mead, but several condors venture into Utah on a regular basis. Individuals may rarely forage in the eastern portion of the analysis area; however, no known roost or nest sites are known at this time.

3.2.6 Fish and Wildlife, Including Special Status Species other than FWS Candidate or Listed Species (e.g., Migratory Birds)

General Wildlife

The foothills and mountain slopes in the analysis area contain vegetation that provides habitat for a variety of wildlife species including the golden eagle, red-tailed hawk, gray flycatcher, juniper titmouse, scrub jay, pinyon jay, olive-sided and ash-throated flycatchers, mountain bluebird, green-tailed towhee, wild turkey, rainbow, cutthroat, and brown trout, mule deer, pronghorn antelope, and elk. Common species at higher elevations include the western and mountain bluebird, sharp-shinned and Cooper's hawks, golden eagle, Steller's jay, Clark's nutcracker, red-breasted nuthatch, three-toed woodpecker, mountain chickadee, wild turkey, mule deer, and elk. The higher elevation habitats represent a relatively small proportion of BLM-managed land but support a variety of species not commonly found in other areas of the analysis area; these areas function as important summer range for mule deer and elk and also are important to many migratory bird species.

The alluvial slopes and valley bottoms contain semi-desert and desert vegetation types (salt-desert shrub vegetative community) that provide habitat for a variety of wildlife species including the American kestrel, red-tailed hawk, loggerhead shrike, horned lark, Western meadowlark, sage thrasher, Brewer's sparrow, sage sparrow, black-throated sparrow, lark sparrow, sagebrush lizard, mule deer, pronghorn antelope, badger, coyote, black-tailed jackrabbit, and elk. Many reptile species can also be found in this vegetation type. This habitat type functions as critical habitat for wintering big game herds that are forced into the valleys during the winter months. Uplands (i.e., foothills and mountains) provide critical thermal- and hiding cover, while the lower elevation areas provide the forage necessary to sustain the wintering herds. These areas are also important to many migratory non-game bird species.

Riparian/wetland areas provide important forage, water, shade, and cover for a variety of wildlife, including elk, mule deer, wild turkey, and many species of migratory birds. Riparian/wetland areas are important for wildlife because these sites are rare in the analysis area and many animals depend on them for water, forage, and cover. Riparian habitat is used by mule deer and wild turkeys in winter as forage and cover, by nongame migratory birds and waterfowl as migration and nesting habitat, and by small mammals, lizards, and amphibians as year-long habitat. Big game species also utilize these areas extensively, especially during the dry summer months. Riparian and wetlands are critical for many songbird and wetland bird species as they provide the food sources and resting areas necessary to sustain the birds during the spring and fall migration seasons. Rainbow, cutthroat, and brown trout may be found in streams in the area.

Portions of the analysis area contain crucial range for big game. Big game crucial range was identified in the Implementation EA's for each of the planning area, but since these documents were written these ranges has changed. The UDWR has since updated these maps to reflect the habitat and how the animals utilize the areas. The UDWR has mapped pronghorn, elk, and mule deer crucial use areas in Utah and identified areas of crucial value habitat and areas of substantial value habitat. UDWR defines crucial value as "habitat on which the local population of a wildlife species depends for survival because there are no alternative ranges or habitats available" and "...essential to the life history requirements of a wildlife species." They further state that degradation or unavailability of crucial habitat will lead to declines in carrying capacity and/or numbers of wildlife species in question. UDWR defines substantial value as "habitat that is used by a wildlife species but is not crucial for population survival"(UDWR 2008d, UDWR 2008c). There are seven UDWR Wildlife Management Areas within the analysis areas. These WMA's include; 16a-Central Mountains, Nebo, 19a-West Desert, Deep Creeks, 19b-WestDesert, Vernon, 20-Southwest Desert, 21a-Fillmore, Oak Creek, 21b-Fillmore, Pahvant, 22-Beaver.

Rocky Mountain elk are common in most mountainous regions of Utah. Crucial value winter (322,885.2 acres throughout the FFO) and summer habitat for elk is present in the southeastern portion of the analysis area (Figure 4). The area identified as crucial summer in the southeastern portion of the FFO is also considered calving habitat (100,841.5 acres). Substantial year-long habitat is present in the northeastern part with crucial year-long habitat (63,383.7 acres) located in the southern portion of the analysis area. Crucial and substantial winter habitat is present in the northwestern part of the analysis area. A few, smaller herds of elk spend the entire year on BLM lands using high desert habitats (UDWR 2008c).

Mule deer are common throughout Utah in open deserts to high mountains to urban areas (Figure 5). Mule deer often migrate from high mountainous areas in the summer to lower elevations in the winter to avoid deep snow. Mule deer crucial value winter and summer range habitat is present in the southeastern portion of the analysis area. Crucial winter/spring habitat is present in the northeastern portion of the analysis area and crucial winter/spring, spring/fall, summer/fall, and winter habitat is present in the northwestern portion of the analysis area. The central part of the analysis area provides substantial year-long habitat for mule deer. There is also fawning

habitat overlapping the crucial winter and summer ranges in the southern and southeastern portions of the analysis area (UDWR 2008c). There are approximately 439,948.5 acres of crucial winter range and 553729.2 acres of fawning habitat.

Pronghorn antelope are common in Utah, where they primarily occur in desert, grassland, and sagebrush habitats (Figure 6). There is a large amount of critical year-long pronghorn habitat (3,150,920.8) located within the analysis area; however there is no designated fawning habitat (UDWR 2008c).

The Rocky Mountain bighorn sheep, *Ovis canadensis canadensis*, is native to rugged mountainous areas of western North America. The species has been eliminated from much of its former range due to over-hunting, habitat alterations, and diseases introduced by domestic livestock. In Utah, a great deal of effort has gone into re-establishing Rocky Mountain bighorn sheep, and the species can now be found in a number of mountain ranges. Rocky Mountain bighorn sheep prefer steep rocky slopes, and may migrate from higher elevations to lower valleys in the winter. Young are born in May or June; females give birth to one or two lambs that can follow their mother shortly after birth. The diet of the species consists of a wide variety of plants, which vary with the season. UDWR has identified a small area in the northeastern portion of the analysis area as predicted habitat. Bighorn sheep have also been introduced to the Deep Creek Mountains located in the northwestern part of the FFO and is considered yearlong habitat (Figure 7). Though this reintroduction was not considered a success this area is still considered potential habitat (138,501.7 acres).

Diversity of endemic plants – those that are unique to an area and are not naturally found elsewhere – is high in southeastern Utah and likely plays a role in fostering the endemism of other taxa such as bees (Griswold et al. 1997). Bees are important pollinators of native ecosystems. Many species of bees have specialized foraging habits and may restrict pollen collection to a single family or genus of plants. These species play an important role in pollinating endemic plants and localized desirable species of vegetation and could potentially be affected by the proposed action and alternatives.

Bald eagles have been recorded within the analysis area according to the Utah Department of Wildlife Resources (R. Naeve, personal communication). Bald eagle habitat, specifically winter habitat is found throughout the analysis area. Stipulations outlined in the Bald Eagle Protection Act of 1940 would be required in areas where bald eagles are present.

Figure 4. Elk Habitat.

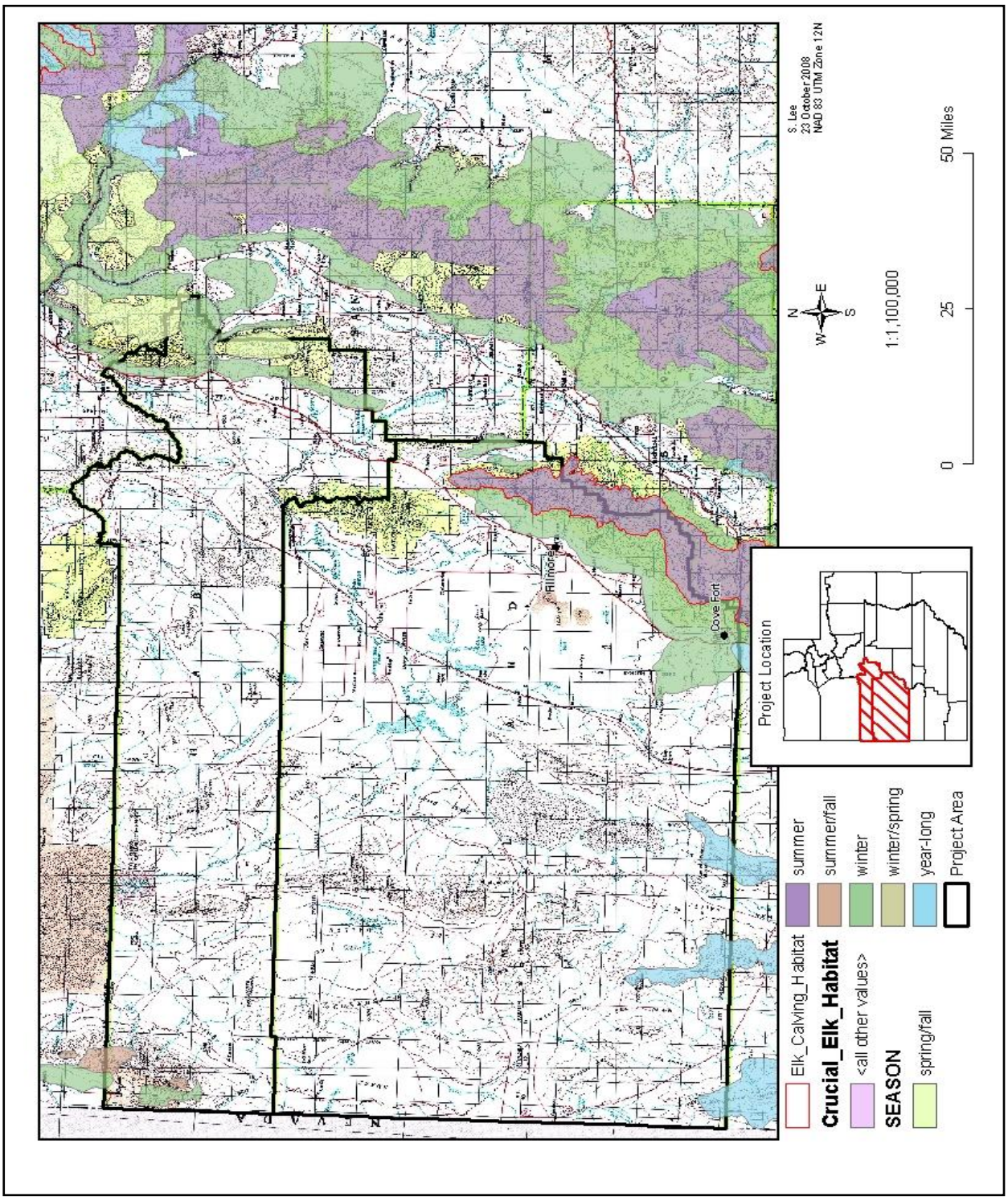


Figure 5. Mule Deer Habitat.

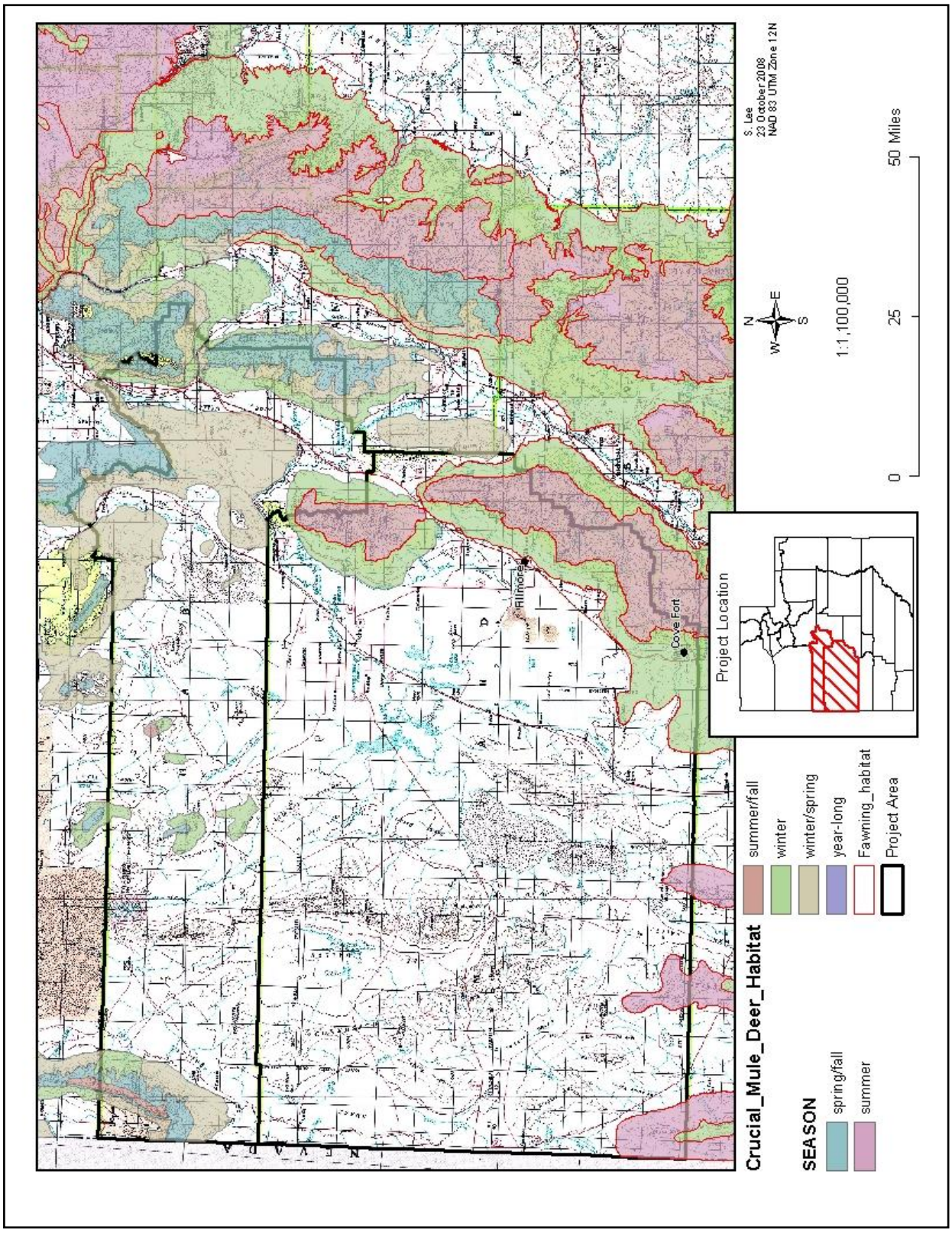


Figure 6. Pronghorn Habitat.

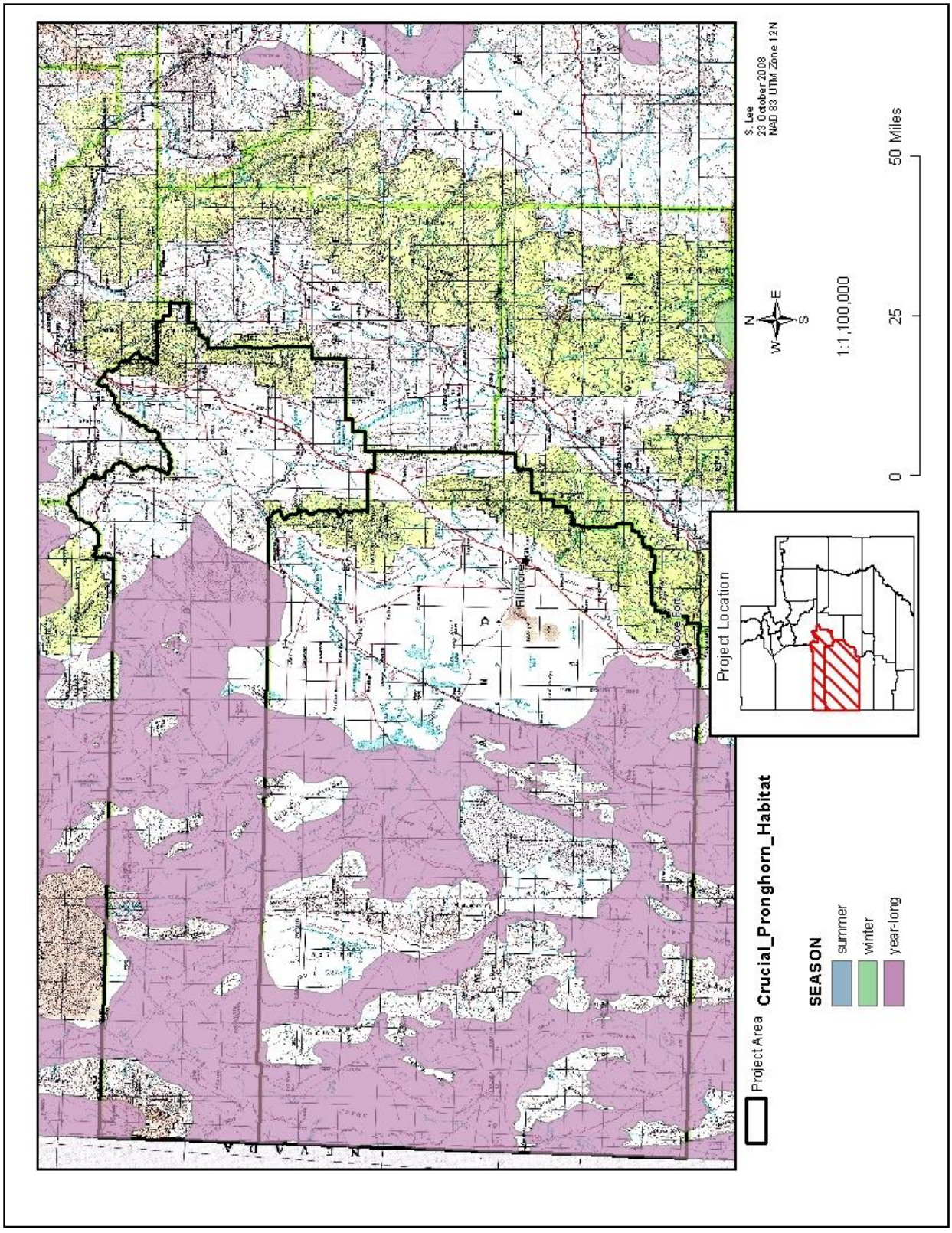
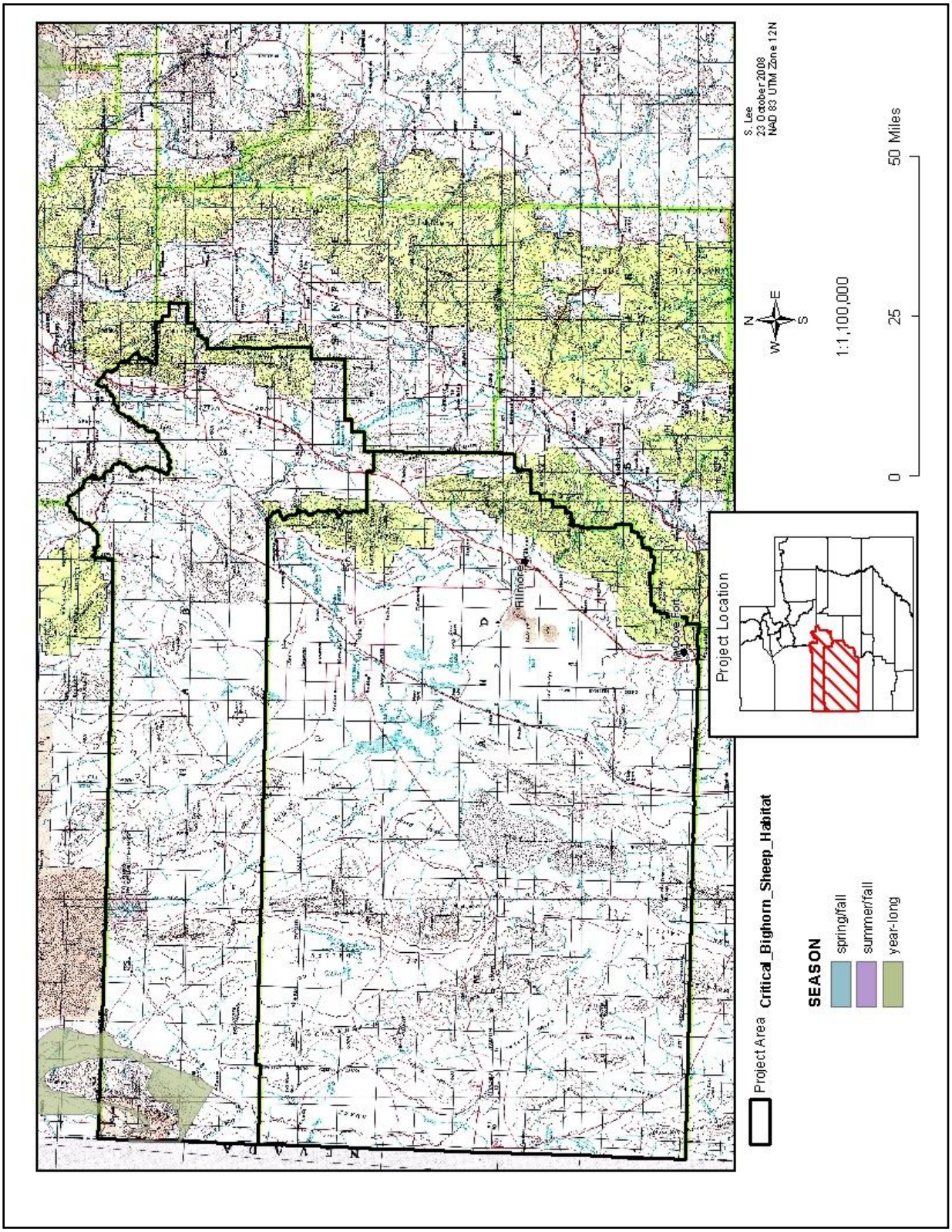


Figure 7. Rocky Mountain Bighorn Sheep.



Sensitive Animal Species

BLM manages sensitive species, not federally listed as threatened or endangered, in accordance with BLM Manual 6840. There are 33 state-listed sensitive species identified as occurring or potentially occurring within the analysis area (Table 4). However, brown (grizzly) bears have been extirpated from Juab and Millard Counties and therefore, are not discussed in detail.

Table 4. BLM sensitive animal species, habitat association, and habitat availability.

Mammals
Big free-tailed bat (*Nyctinomops macrotis*) Habitat association: Rocky and woodland habitats; roosts occur in caves, mines, old buildings, and rock crevices. Presence or absence of suitable habitat: Known occurrence
Dark kangaroo mouse (*Microdipodops megacephalus*) Habitat association: Sagebrush areas with sandy soils Presence or absence of suitable habitat: Known occurrence
Fringed myotis (*Myotis thysanodes*) Habitat association: Inhabits caves, mines, and buildings, most often in desert and woodland areas Presence or absence of suitable habitat: Known occurrence
Kit fox (*Vulpes macrotis*) Habitat association: Occurs in open prairie, plains, and desert habitats Presence or absence of suitable habitat: Known occurrence
Pygmy rabbit (*Brachylagus idahoensis*) Habitat association: Prefers areas with tall dense sagebrush and loose soils Presence or absence of suitable habitat: Known occurrence
Townsend's big-eared bat (*Corynorhinus townsendii*) Habitat association: Forested areas, caves, mines, and buildings Presence or absence of suitable habitat: Known occurrence
Birds
American white pelican (*Pelecanus erythrorhynchos*) Habitat association: Nest inland on isolated islands in lakes and rivers; feed in shallow lakes, rivers, and marshes. Presence or absence of suitable habitat: Potential habitat
Bald eagle (*Haliaeetus leucocephalus*) Habitat association: Shorelines and forested woodlands, valleys during the winter Presence or absence of suitable habitat: Known occurrence
Bobolink (*Dolichonyx oryzivorus*) Habitat association: Wet meadow, wet grassland, and irrigated agricultural areas Presence or absence of suitable habitat: Potential habitat
Burrowing owl (*Athene cunicularia*) Habitat association: Open grassland and prairies, nest in mammal burrow, usually that of a prairie dog, ground squirrel, badger, or armadillo; if a mammal burrow is not available the owls will sometimes excavate their own nest burrow. Presence or absence of suitable habitat: Known occurrence
Ferruginous hawk (*Buteo regalis*) Habitat association: Flat and rolling terrain in grassland or shrub steppe. Winter habitat is open farmlands, grasslands, deserts, and other arid regions where lagomorphs, prairie dogs, or other major prey items are present. Presence or absence of suitable habitat: Known occurrence

Grasshopper sparrow (*Ammodramus savannarum*) Habitat association: Prairie and cultivated grasslands, weedy fallow fields, and alfalfa fields. Presence or absence of suitable habitat: Potential habitat
Greater sage-grouse (*Centrocercus urophasianus*) Habitat association: Sagebrush plains, foothills, and mountain valleys. Sagebrush is the predominant plant in quality habitat. Presence or absence of suitable habitat: Known occurrence
Lewis's woodpecker (*Melanerpes lewis*) Habitat association: Open park-like ponderosa pine forests, burned-over Douglas-fir, mixed conifer, pinyon-juniper, riparian, and oak woodlands. Presence or absence of suitable habitat: Potential habitat
Long-billed curlew (*Numenius americanus*) Habitat association: Grasslands and agricultural areas used for breeding. Presence or absence of suitable habitat: Known occurrence
Northern goshawk (*Accipiter gentilis*) Habitat association: Mature mountain forest and riparian zone habitats Presence or absence of suitable habitat: Known occurrence
Short-eared owl (*Asio flammeus*) Habitat association: Grasslands, shrublands, and other open habitats Presence or absence of suitable habitat: Known occurrence
Three-toed woodpecker (*Picoides tridactylus*) Habitat association: Engelmann spruce, sub-alpine fir, Douglas fir, grand fir, ponderosa pine, tamarack, aspen, and lodgepole pine forests. Presence or absence of suitable habitat: Potential habitat
Amphibians and Mollusks
Bifid duct pyrg (*Pyrgulopsis peculiaris*) Habitat association: Small, montane rheocrenes. Presence or absence of suitable habitat: This species is known in Utah from 6 springs in Millard County; potential habitat
California floater (*Anodonta californiensis*) Habitat association: creeks up to 18 inches in depth with mud, sand, or gravel bottoms Presence or absence of suitable habitat: Known historic occurrence; potential habitat
Cloaked physa (*Physa megalochlamys*) Habitat association: Extensive marshes or ponds, fluctuating or even drying seasonally. *Typha-Scirpus* marshes. Presence or absence of suitable habitat: The only reported locality is in Snake Valley in northwestern Millard County; potential habitat.
Columbia spotted frog (*Rana luteiventris*) Habitat association: Wetlands and forest openings adjacent to water. Presence or absence of suitable habitat: Known occurrence.
Eureka mountainsnail (*Oreohelix eurekensis*) Habitat association: forest and sagebrush habitats, on north-facing slopes of about 8,000 ft elevation. Presence or absence of suitable habitat: Known historical occurrence; potential habitat.
Longitudinal gland pyrg (*Pyrgulopsis anguina*) Habitat association: rheocrene spring having a temperature of 16 degrees C and conductivity of 450 micromhos/cm. Presence or absence of suitable habitat: known occurrence in Clay Spring in northwestern Millard County; potential habitat.

Sub-globose snake pyrg (*Physella utahensis*) Habitat association: thermal rheocrenes issuing from the side of a hill; elevation of 5,080 ft. Presence or absence of suitable habitat: endemic to Warm Springs, Snake Valley, Millard County; potential habitat
Utah physa (*Physella utahensis*) Habitat association: spring-fed pools between about 1/4 and 3/4 acre Presence or absence of suitable habitat: Potential habitat; potential habitat.
Western toad (*Bufo boreas*) Habitat association: Slow moving streams, wetlands, desert springs, ponds, lakes, meadows, and woodlands. Presence or absence of suitable habitat: Potential habitat
Fish
Bonneville cutthroat trout (*Oncorhynchus clarkii utah*) Habitat association: High-elevation mountain streams and lakes to low-elevation grassland streams. Presence or absence of suitable habitat: Known habitat.
Least chub (*Iotichthys phlegethontis*) Habitat association: Native to the Bonneville Basin in western Utah. Presence or absence of suitable habitat: Known occurrence.
Southern leatherside chub (*Lepidomeda aliciae*) Habitat association: native to streams and rivers of the southeastern portion of the Bonneville Basin Presence or absence of suitable habitat: Potential habitat

Species protections, such as important seasonal timing restrictions and riparian buffers, are important in minimizing impacts to sensitive species. To comply with BLM policy 6840 for Utah BLM State Sensitive Species, lease notices are attached to appropriate parcels when sensitive species or important, associated habitats are known to occur within the immediate area. The sensitive wildlife species are briefly discussed below in the context of the habitat type in which they would occur.

Sagebrush Grasslands Habitat

Sagebrush grasslands comprise the primary habitat present within the field office area. Sensitive species that use sagebrush grassland in the analysis area are the bobolink, grasshopper sparrow, long-billed curlew, dark kangaroo mouse, and the kit fox. Since there are no additional protective resource measures for these species, they are not discussed in detail. The following species are also found in sagebrush grassland habitat:

Greater sage-grouse are upland game birds that are entirely dependent on sagebrush communities for all stages of their life cycle, with extensive areas of this habitat type required year-round. Sage-grouse have a high seasonal fidelity. The breeding season is mid-February to mid-May. Most nests are located under sagebrush plants in areas comprised of 15 to 30 percent canopy cover. Riparian meadows, springs, and streams are also used, especially in dry years, as these areas produce the forbs and insects necessary for juvenile birds. Diverse plant communities with abundant insect populations are especially important to provide food for chicks. During winter, sage-grouse feed almost exclusively on sagebrush leaves and buds, so exposure above the snow is critical (BLM 2002). There are winter concentration areas near the northern border of the analysis area and nesting and early brood rearing habitat in the northern and southern portions of the analysis area (Figure 8)

The most severe negative impacts on sage-grouse populations appear to be related to full field energy development (Lyon and Anderson 2003, Holloran 2005, Kaiser 2006, Holloran et al. 2007, Aldridge and Boyce 2007, Walker et a1. 2007, Doherty et al. 2008) with research indicating that oil or gas development exceeding approximately 1 well pad per square mile with the associated infrastructure, results in calculable impacts on breeding populations, as measured by the number of male sage-grouse attending leks (Holloran 2005, Naugle et al. 2006a). Walker et al. (2007) indicate that in areas with full development, the 0.25-mile buffer lease stipulation is insufficient to adequately conserve breeding sage-grouse populations but that NSO buffers can increase the likelihood of maintaining the distribution and abundance of grouse and should increase the likelihood of successful restoration following energy development.

Research in Wyoming and Montana (Holloran 2005, Naugle et al. 2006a) indicates that current BLM stipulations to protect greater sage-grouse, including 0.25 mile radius lek buffers are not protecting leks as expected in areas of significant energy development. Holloran (2005) found that greater sage-grouse habitat protection stipulations are inadequate to protect sage grouse at large scales and high levels of development with observed declines in lek attendance at higher densities of gas development. Naugle et al. (2006a) report that impacts on lek attendance began to occur at surface spacings at or above 1 well pad per 640 acres, and those impacts became significant between 1 well pad per 320 acres, and 1 well pad per 160 acres. Naugle et al. (2006b) also found that the presence of development affected use of winter ranges by greater sage-grouse.

Pygmy rabbits are found in northern and western Utah, where they prefer areas with tall, dense sagebrush and loose soils. In 2005, the FWS issued a negative finding on a petition to list the pygmy rabbit as threatened or endangered under the ESA (70 FR 29253). In January 8, 2008 the FWS issued a finding on a new petition stating that it presents substantial scientific or commercial information indicating that listing the pygmy rabbit may be warranted (73 FR 1312). This species has experienced severe population declines throughout the Great Basin and adjacent intermountain areas (Janson 2002; Flinders 1999). These declines have primarily occurred due to anthropogenic disturbances (e.g., habitat fragmentation, increased fire frequency, overgrazing) currently impacting the sagebrush-steppe habitat type (Heady and Laundre 2005).

In general, occupied pygmy rabbit habitat includes tall, dense stands of big sagebrush that provide critical food and cover for the species. Horizontal obscurity in occupied habitat was observed to be greater and more divergent, moving from low to high readings indicative of an increased vegetative structure in the upper part of shrubs in more heavily occupied areas. Disturbance in these areas that reduce the height, density, or cover of sagebrush are likely to negatively affect pygmy rabbits and reduce available habitat in the short term. Although pygmy rabbits do also use edge habitats, this use is restricted to the narrow band of sagebrush adjacent to big sagebrush (Flinders et al. 2008). Flinders et al. (2008) makes recommendations for preservation of existing pygmy rabbit habitat; the presence of pygmy rabbit burrows identifies the suitable soils, vegetation and slopes that best satisfy some of the critical habitat requirements of this species. Recommendations include: leaving long and wide swaths of undisturbed mature big sagebrush to reduce the amount of area within the treatment area that pygmy rabbits would avoid while maintaining corridors of connectivity between all residual stands of big sagebrush. Breeding occurs during the spring and early summer; females may produce a litter of approximately six young about thirty days after mating. Pygmy rabbits primarily eat sagebrush, but other vegetation is also consumed. Pygmy rabbit habitat is known to occur within the analysis area (UDWR 2008f).

Peregrine falcons still rare in Utah, it has become much more abundant throughout its range in recent years. The widespread use of the pesticide DDT in the 1940s, 1950s, and 1960s caused a drastic reduction in peregrine falcon numbers (and in the numbers of other raptor species) throughout North America. This species prefers to nest on cliffs or bluffs where it can create a nest site out of a shallow scrape. There is potential breeding habitat scattered throughout the analysis area. Pahvant Butte (a designated ACEC) is a historical peregrine falcon eyrie, and it has been identified by the UDWR as a reintroduction site for the species.

Burrowing owl habitat includes open grasslands, especially prairie, plains and savannas and sometimes open areas such as vacant lots near human habitation or airports. Burrowing owls are potential summer-time residents in the analysis area. The *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romin and Muck 2002) identify March through August as the key nesting and reproduction period for this species, although individuals may remain into September before migrating. They typically nest and roost in burrows dug by mammals, specifically Utah prairie dog, badgers, or ground squirrels. Burrowing owls spend much of their time on the ground or on low perches, such as fence posts or dirt mounds. Burrowing owls are known to occur within the FFO.

The **northern goshawk** occurs as a permanent resident throughout Utah, but is not common in the state. The northern goshawk prefers mature mountain forest and riparian zone habitats. Nests are constructed in trees in mature forests. Northern goshawks cruise low through forest trees to hunt, and may also perch and watch for prey. Major prey items include rabbits, hares, squirrels, and birds. The northern goshawk is a species that is receiving special management under a Conservation Agreement in order to preclude the need for listing.

Raptors, including the, ferruginous hawk, short-eared owl, bald eagle, and other species that are not listed on the BLM's sensitive species list but use similar habitat types, are common in the analysis area. Although no longer protected under ESA, bald eagles remain protected under the Bald Eagle Protection Act of 1940 (16 USC 668-668d, 54 Stat. 250).

Because of the variety of raptor species present in the analysis area, all habitat types are used including fields, sagebrush steppe, and pinyon pine-juniper woodlands. Nesting tends to be concentrated around cliffs, large trees, embankments, and other habitat features. The FWS has developed the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romin and Muck 2002) which outlines appropriate guidelines for spatial and seasonal buffers to protect nesting raptors. Seasonal buffers restrict activity around nests as early as December 1 for great-horned owls, January 1 for golden eagles, February 1 for peregrine falcon, and March or April 1 for other diurnal raptors. The seasonal buffers remain in effect until August, or until a nest is no longer occupied.

Bonneville cutthroat trout is a race, or subspecies, of the cutthroat trout native to the Bonneville Basin of Utah, Wyoming, Idaho, and Nevada. Bonneville cutthroat trout primarily eat insects, but large individuals also eat fishes. Like other cutthroat trout, the subspecies spawns in streams over gravel substrate in the spring. They can be found in a number of habitat types, ranging from high-elevation mountain streams and lakes to low-elevation grassland streams. In all of these habitat types, however, the Bonneville cutthroat trout requires a functional stream riparian zone, which provides structure, cover, shade, and bank stability. The Bonneville cutthroat trout is a sensitive species that is receiving special management under a Conservation Agreement in order to preclude the need for listing.

The least chub is a small minnow native to the Bonneville Basin. Although the species formerly occurred in many areas of the Bonneville Basin, including ponds and streams near Salt Lake City and the Great Salt Lake, it now occurs only in scattered springs and streams in western Utah. Much of the least chub's decline can be attributed to the introductions of nonnative fishes. Fortunately, efforts are now underway to expand the numbers and distribution of the least chub. The least chub is a species that is receiving special management under a Conservation Agreement in order to preclude the need for listing.

The Columbia spotted frog ranges from southeast Alaska through Alberta, Canada, and into Washington, Idaho, Wyoming, Montana, and disjunct areas of Nevada and Utah. In Utah, isolated Columbia spotted frog populations exist in the West Desert and along the Wasatch Front. They are highly aquatic and live in or near permanent bodies of water, including lakes, ponds, slow streams and marshes. They are most often found in non-woody wetland plant communities (species such as sedges, rushes and grasses). The Columbia spotted frog is a species that is receiving special management under a Conservation Agreement in order to preclude the need for listing.

Forested Woodland Habitat

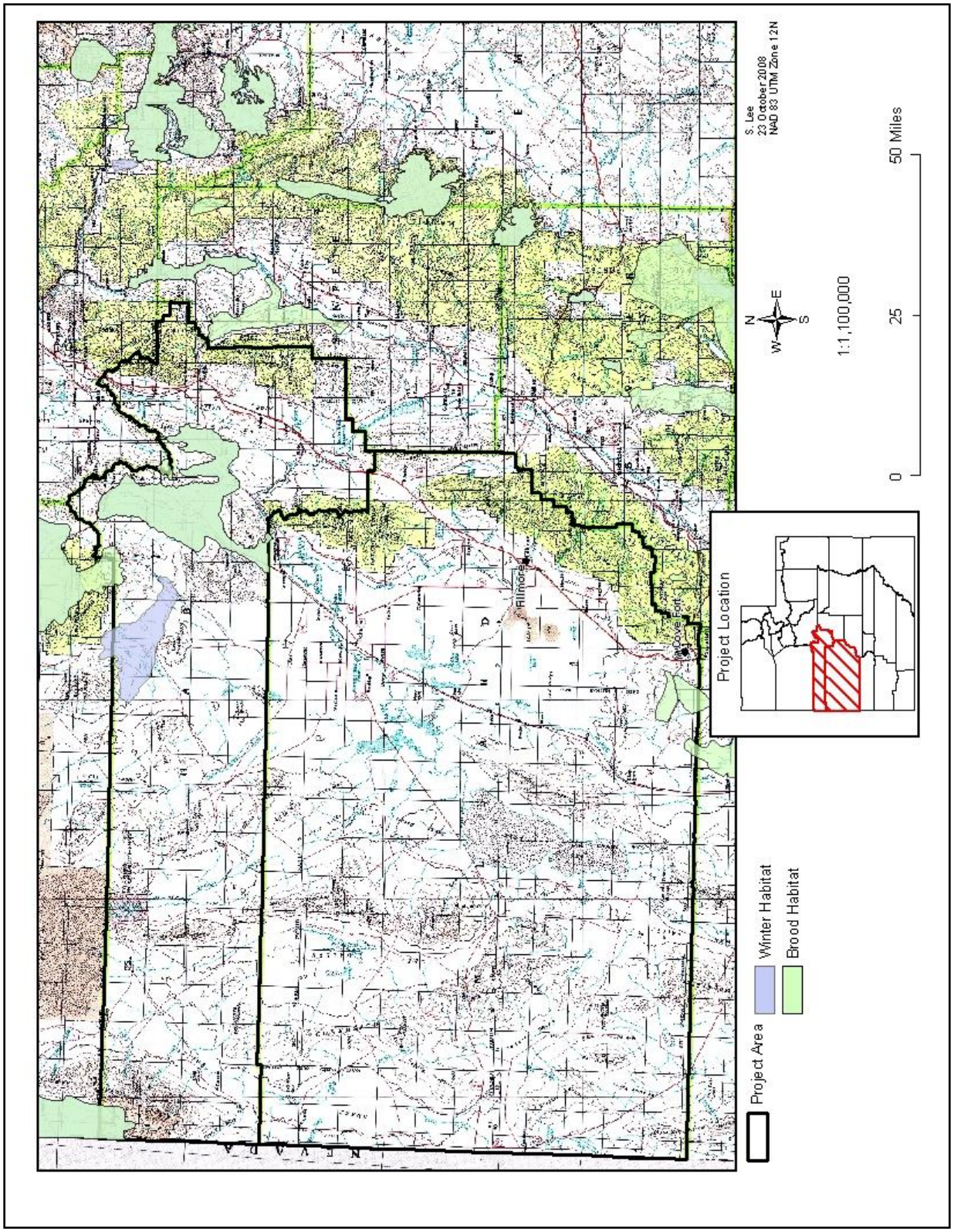
There are three BLM-sensitive bat and three bird species with the potential to occur in forested/woodland habitat in the analysis area. The bat species – big free-tailed bat, Townsend's big-eared bat, and fringed myotis – occur in a wide variety of habitats ranging from the forested/woodland to desert habitat, but rely heavily on areas with caves, mines, rock crevices, and buildings where they can roost. These species occur most prevalently around areas with riparian or open water habitat close by that provides foraging habitat. These habitat types occur primarily along the eastern boundary of the analysis area.

The Lewis's woodpecker and three-toed woodpecker occur in areas containing Engelmann spruce, sub-alpine fir, Douglas fir, grand fir, ponderosa pine, tamarack, aspen and lodgepole pine forests. The northern goshawk inhabits mature mountain forests and riparian zones. These habitat types occur primarily along the mountainous areas on the eastern extents of the analysis area. Goshawks also winter in the limited pinyon pine and juniper habitats throughout the analysis area.

Riparian Areas/Flowing Streams and Open Water Shorelines

Species that occur within riparian and wetland habitat include the American white pelican, bifid duct pyrg, California floater, cloaked physa, Columbia spotted frog, Eureka mountainsnail longitudinal gland pyrg, sub-globose snake pyrg, Utah physa, and the Western toad. Fish species include the Bonneville cutthroat trout, least chub, and the southern leatherside chub. Refer to the previous riparian/wetland section under General Wildlife for a more detailed discussion.

Figure 8. Greater Sage-grouse Habitat



Non-game, Migratory Birds

The guidelines set forth in WO IM 2008-050, Migratory Bird Treaty Act – Interim Management Guidelines are followed for all NEPA procedures. As per this WO IM, an MOU will be developed between the USFWS and BLM as to the long term management of Migratory Birds. In the interim, management efforts would adhere to the guidance contained in the WO IM which provides project level NEPA and planning level guidance. The Migratory Bird Treaty Act of 1918 protects migratory birds and their parts. Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds), signed on January 10, 2001, directs federal agencies to evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern. *Birds of Conservation Concern* (FWS 2002) identifies the migratory bird species of concern in different Bird Conservation Regions (BCRs) in the United States. The analysis area encompasses a portion of 2 separate BCRs – BCR 9 (Great Basin) and BCR 16 (Southern Rockies/Colorado Plateau) with I-15 being the boundary between these two BCRs. Species lists for both of these regions have been reviewed; the potential exists for at least 39 migratory bird species, currently designated as species of concern, to occur within the analysis area, primarily between April and September, with several of the species known to nest within the analysis area. The *Utah Partners in Flight Avian Conservation Strategy* (Parrish et al. 2002) identified 24 priority species (Table 5); there is potential for habitat for all of these species in the analysis area. Migratory birds occur in a wide variety of habitat types including the pinyon and juniper woodland, sagebrush-steppe, and grasslands found in the analysis area.

Table 5. Utah Partners in Flight Priority Species (Parrish et al. 2002).

Priority Species	Breeding Habitat	Wintering Habitat
Lewis's Woodpecker	Ponderosa Pine, Lowland Riparian	Oak
Albert's Towhee	Lowland Riparian	Lowland Riparian
American Avocet	Wetland, Playa	Migrant
Mountain Plover	High Desert Scrub	Migrant
Lucy's Warbler	Lowland Riparian, Low Desert Scrub	Migrant
Sage-grouse	Shrubsteppe	Shrubsteppe
American White Pelican	Water, Wetland	Migrant
Bobolink	Wet Meadow, Agriculture	Migrant
Virginia's Warbler	Oak, Pinyon-Juniper	Migrant
Gray Vireo	Pinyon-Juniper, Oak	Migrant
Bell's Vireo	Lowland Riparian	Migrant
Black Rosy-Finch	Alpine	Grassland
Long-billed Curlew	Grassland, Agriculture	Migrant
Sharp-tailed Grouse	Shrubsteppe, Grassland	Shrubsteppe
Brewer's Sparrow	Shrubsteppe, High Desert Scrub	Migrant
Black Swift	Lowland Riparian, Cliff	Migrant
Black-necked Stilt	Wetland, Playa	Migrant
Broad-tailed Hummingbird	Lowland Riparian, Mountain Riparian	Migrant
Ferruginous Hawk	Pinyon-Juniper, Shrubsteppe	Grassland
Yellow-billed Cuckoo	Lowland Riparian, Agriculture	Migrant
Black-throated Gray Warbler	Pinyon-Juniper, Mountain Shrub	Migrant
Three-toed Woodpecker	Sub-Alpine Conifer, Lodgepole Pine	Sub-Alpine Conifer
Sage Sparrow	Shrubsteppe, High Desert Scrub	Low Desert Scrub
Gambel's Quail	Low Desert Scrub, Lowland Riparian	Low Desert Scrub

3.2.7 Vegetation including Special Status Plant Species other than FWS candidate or listed species

There are 16 plants that are designated as BLM Sensitive Species in the FFO (*Astragalus unicialis, Atriplex canescens gigantean, Cryptantha compacta, Cymopterus acaulis parvus, Epilobium nevadense, Erogonum nummulare ammophilum, Hackelia ibapensis, Haplopappus crispus, Jamesia tetrapetala, Penstemon angustifolius dulcis, Potentilla cottamii , Primula cusickiana domensis, Sphaeralcea caespitosa caespitosa, Swertia gypsicoloa, Townsendia jonesii lutea,*and *Trifolium friscanum*). Two of these species, giant fourwing saltbush (*Atriplex canescens gigantea*) and Neese narrowleaf penstemon (*Penstemon angustifolius dulcis*), are known to occur north of Little Sahara Recreation Area. Known populations of Giant fourwinged saltbush occur on sand dunes and semi-stabilized sand dunes. Known populations of Neese narrowleaf penstemon occur on sandy soils. The occurrence of the other BLM Sensitive Species is unknown and a plant survey would be necessary before exploration or development activities occurred.

3.2.8 Invasive, Non-native Species

The State of Utah has 18 listed noxious weed species (Bermuda grass, Johnson grass, medusahead, quackgrass, field bindweed, hoary cress, diffuse knapweed, Russian knapweed, spotted knapweed, squarrose knapweed, purple loosestrife, perennial pepperweed, leafy spurge, yellow starthistle, Canada thistle, musk thistle, scotch thistle, and dyer's woad).

In Millard County the following eight species have been identified and documented; whitetop also known as hoary cress (*Cardaria draba*), squarrose knapweed (*Centaurea virgata*), Russian knapweed (*Centaurea repens*), scotch thistle (*Onopordum acanthium*), musk thistle (*Carduus nutans*), perennial pepperweed (*Lepidium latifolium*), spotted knapweed (*Centaurea maculosa*), and purple loosestrife (*Lythrum salicaria*).

In Juab County the following nine species have been identified and documented: Whitetop also known as hoary cress, squarrose knapweed, Russian knapweed, scotch thistle, musk thistle, leafy spurge (*Euphorbia esula*), perennial pepperweed (*Lepidium latifolium*), spotted knapweed (*Centaurea maculosa*), purple loosestrife (*Lythrum salicaria*), and dalmation toadflax (*Linaria genistifolia spp. dalmatica*).

The following species have not been documented within Juab or Millard counties; however they are a concern due to locations in surrounding areas: black henbane (*Hyoscyamus niger*), camelthorn (*Alhagi pseudalhagi*), yellow starthistle (*Centaurea solstitialis*), diffuse knapweed (*centaurea diffusa*), and poison hemlock (*Conium maculatum*).

The BLM currently treats invasive and noxious weeds using methods and practices approved in the 2007 *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (BLM 2007a). Weeds are treated through cooperative agreements between the counties and other local agencies within a Cooperative Weed Management Area (CWMA). Methods of weed control include manual, mechanical, biological, prescribed burning, and chemical treatments.

Aquatic invasive species – aquatic and terrestrial organisms and plants such as Eurasian milfoil, chytrid fungus, New Zealand mudsnail, Quagga mussels, and whirling disease parasite – pose an ever-increasing threat to the health of ecosystems in the U.S. and some of these species are known to occur in southwestern Utah or nearby surrounding region.

3.2.9 Water Quality

The analysis area is located within the Great Basin hydrological region and contains 28 perennial streams, including the Sevier River, and numerous intermittent streams. There are 192 springs, 94 wells, and 150 small reservoirs in the analysis area. Water quality tests show that well water is suitable for human use. Ground water quality is generally good in areas of natural recharge. In areas of natural discharge, ground waters are slightly saline and generally suitable for only livestock use. There have been no non-point source water pollution areas identified under Section 208 of the Federal Water Pollution Control Act within the analysis area. Utah's 2006 303.d list identified four assessment units (AUs) within the analysis area that did not meet water quality standards or were not expected to meet the water quality standards. Non-point or point source pollutants may cause AUs to not meet water quality standards and to become beneficial use impaired. Currant Creek, Chicken Creek, and Sevier River-24, and Sevier River-25 were identified as AUs within the analysis area (Figure 9). Currant Creek from the Juab and Utah County border to Mona Reservoir is impaired by temperature. Sevier River-24 from Gunnison Bend Reservoir to the DMAD Reservoir and Sevier River-25 from the Gunnison Bend Reservoir to Crear Lake are impaired by total dissolved solids. Chicken Creek and its tributaries from the confluence with the Sevier River to Levan are impaired by total dissolved solids.

3.2.10 Wetlands/Riparian Zones

There are approximately 10,300 acres of wetland and riparian areas within the analysis area, including the Gandy Salt Marsh, the Sevier River Complex, Fish Springs, Fool Creek Reservoir, Clear Lake Area, Scipio Lake, Sevier River near Sevier Bridge Reservoir dam and Oasis (Figure 10). The HRRA RMP supplement does not allow surface disturbance within 500 feet of any perennial streams or springs. For areas located in the WSRA, the *Utah Riparian Management Policy*, which states that no new surface disturbing activities (Category 3 restrictions) will be allowed within 100 meters of riparian areas, would protect riparian areas. There are several riparian areas that are so large that the standard offset for protection is not adequate. These areas are the Gandy Salt Marsh/Bishop Springs/Twin Springs Area, the Sevier River complex, and the south tract riparian areas south of Delta and Oasis. There are other wetlands and riparian habitats throughout the analysis area; however they are not inventoried or surveyed thoroughly at this time.

3.2.11 Wilderness/ Wilderness Study Areas

No designated wilderness areas are within the FFO. The following nine Wilderness Study Areas (WSAs) are located within the analysis area: Swasey Mountains, Rockwell Natural Area, Deep Creek Mountains, Notch Peak, Howell Peak, King Top, Conger Mountain, Fish Springs, and Wah Wah Mountains (Figure 11). There are a total of 371,763acres of WSA land in the analysis area (Table 6). Wilderness designation recommendations have been analyzed in the Utah BLM Statewide Wilderness EIS (November 1990). The Onshore Oil and Gas Leasing reform Act of 1987 (101 Stat. 133-256) and BLM leasing regulations [43 CFR 3100 (2)(viii)] specifically state that no leases may be issued on federal lands that are BLM Wilderness Study Areas. Until Congress decides on designation or non-designation of the WSAs in the resource area, these areas will be managed in conformance with the BLM's Interim Management Policy (IMP) H-8550-1 specifically states that all WSAs are closed to fluid mineral leasing. Category 4 restrictions apply to all WSAs.

Table 6. Wilderness Study Areas within the analysis area.

Location	Acres†
Deep Creek Mountains*	43,133
Swasey Mountain	49,500
Rockwell Natural Area	9,150
Notch Peak	51,130
Howell Peak	24,800
King Top	84,770
Conger Mountain	24,000
Fish Springs	52,500
Wah Wah Mountains*	36,380
Total	371,763

† Utah Statewide Wilderness Report, October 1991.
* Denotes portion of WSA administered by Fillmore Field Office

Figure 9. Impaired streams located in the analysis area.

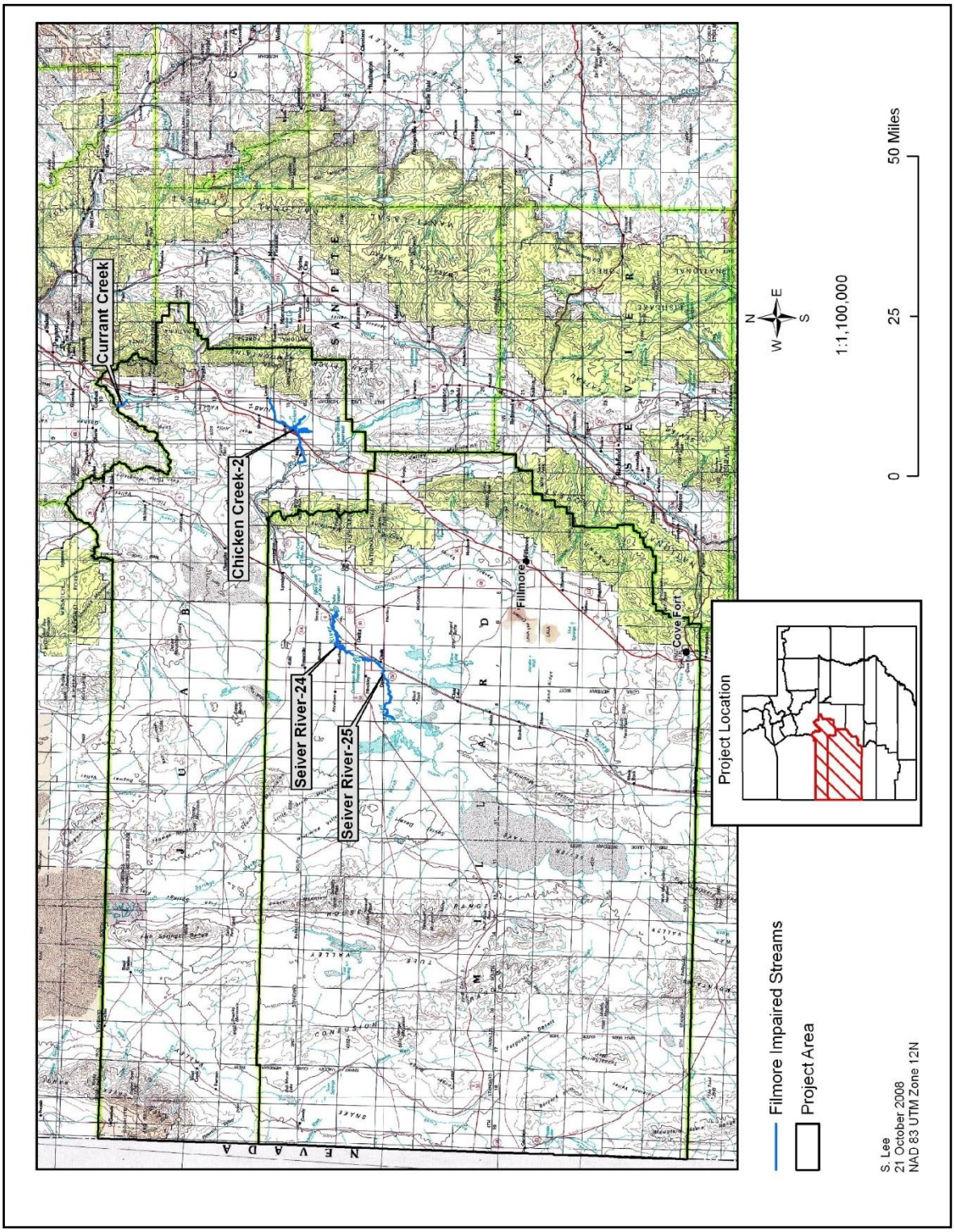


Figure 10. Major wetland and riparian areas in the analysis area.

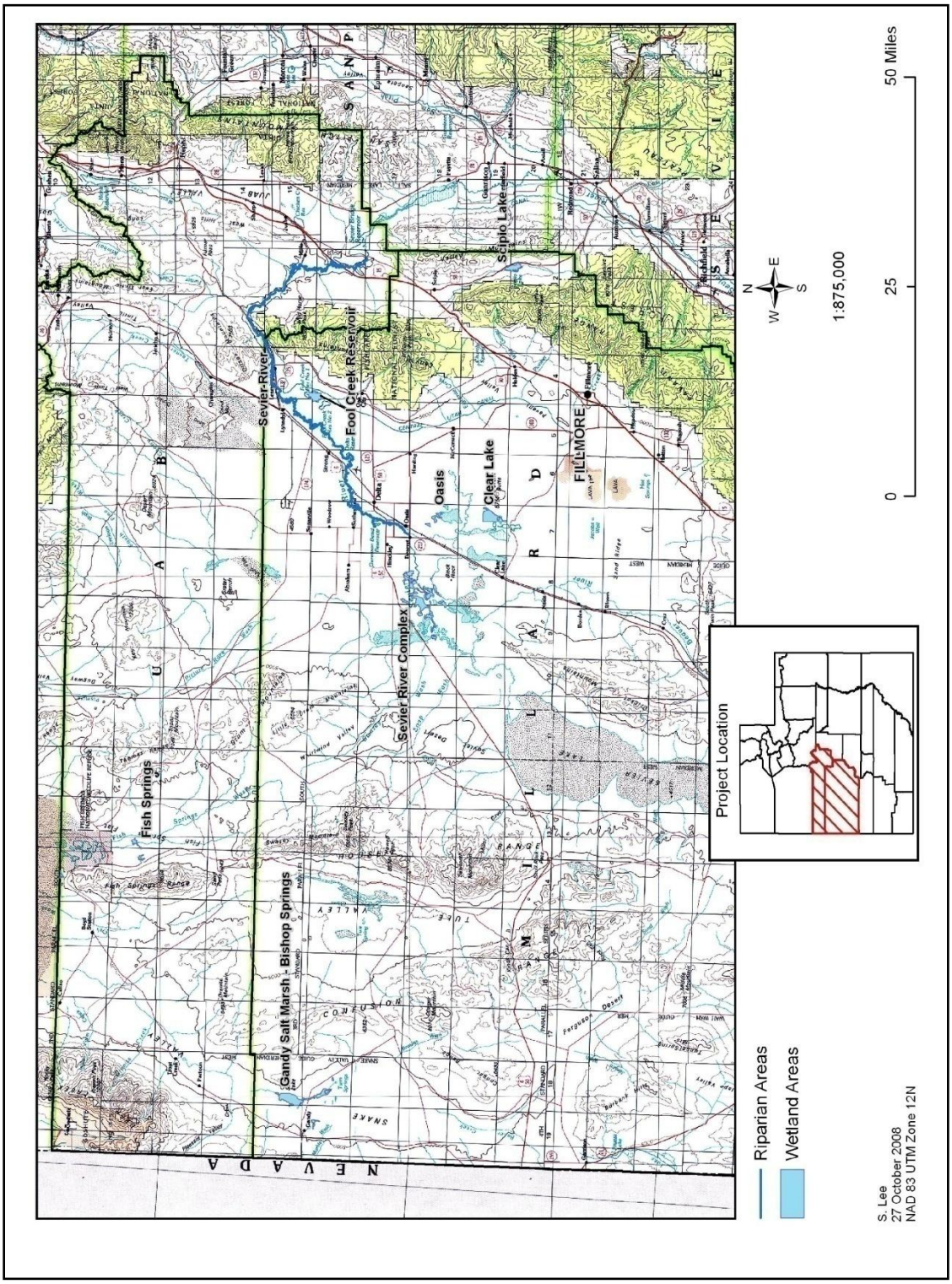
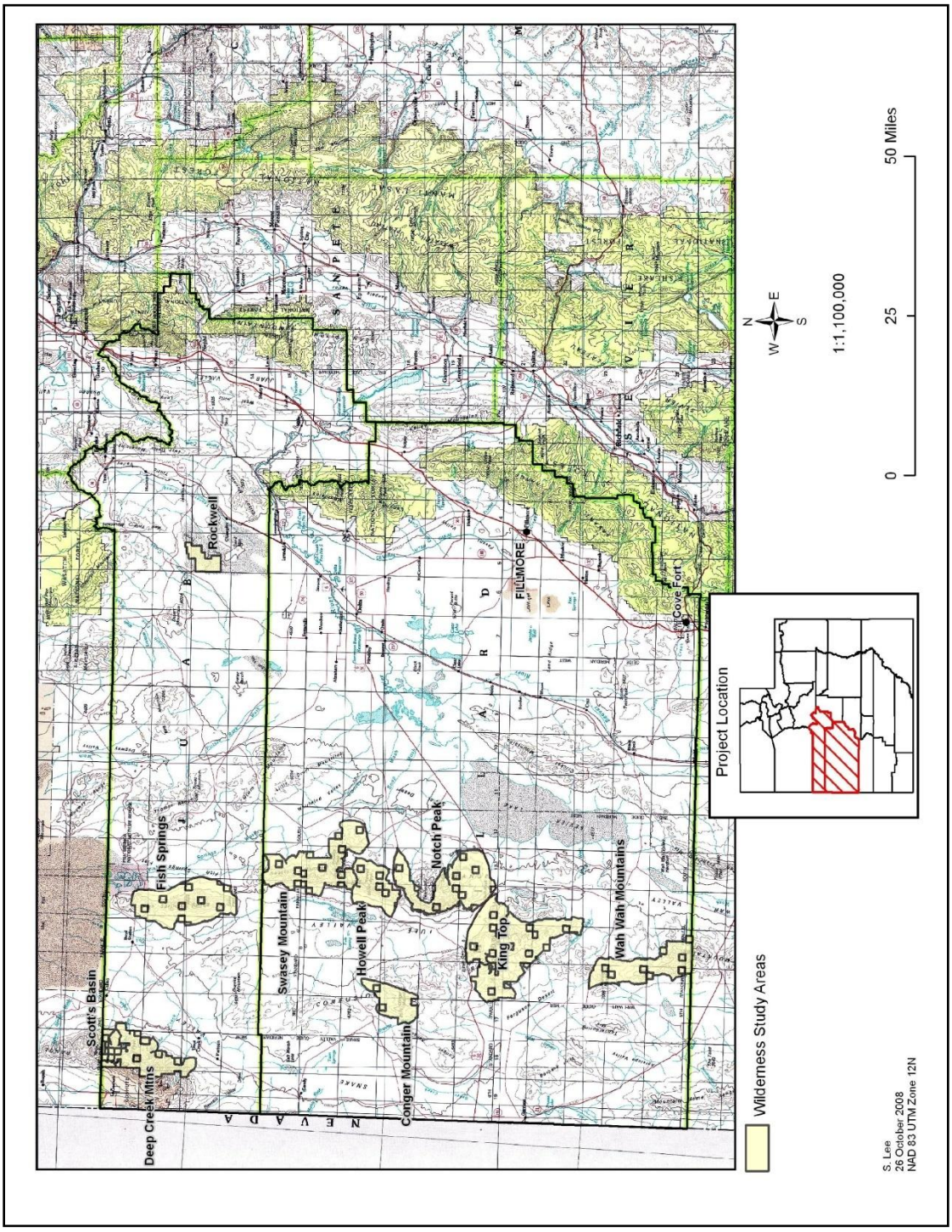


Figure 11. Wilderness Study Area Locations.



3.2.12 Rangeland Health Standards and Guidelines

All grazing areas within the leasing parcel must meet the proper functioning condition for grazing management outlined in the *Standards for Rangeland Health and Guidelines for Grazing Management* (BLM 1997). The *Utah Riparian Management Policy* outlines proper functioning conditions for riparian areas; these conditions must be met for livestock grazing to occur. Livestock grazing is allowed on a total of 4,224,927 acres within the analysis area.

3.2.13 Livestock and Grazing

Livestock grazing is allowable on a total of 4,224,927 acres within the analysis area. This accounts for approximately 95% of BLM lands within the analysis area. The average grazing capacity for the area is 20 acres/Animal Unit Month (AUM).

All BLM allotments have a variety of range improvement projects (i.e. reservoirs, fences, wells, etc.) to facilitate livestock management. All improvements are maintained by the permittees with the exception of major water projects, which are maintained by the BLM.

3.2.14 Visual Resources

Public lands have a variety of visual (scenic) values that warrant different levels of management. The BLM uses the Visual Resource Management (VRM) system to identify and evaluate scenic values to determine the appropriate level of scenery management. These management classes regulate the amount of disturbance that is allowed to occur within a given area – Class I areas are managed to preserve the existing character of the landscape; Class II areas are managed to retain the existing character of the landscape, with a low level of landscape change; Class III areas are managed to partially retain the existing character of the landscape, with only moderate change to the landscape; and Class IV areas are managed to allow major modifications to the existing character of the landscape, and the level of change can be high. The analysis area contains VRM Class II (181,380 acres), III (296,683 acres), and IV (4,008,496 acres) areas (Figure 12). There are no Class I VRM areas in the analysis area.

3.2.15 Recreation

The analysis area contains a wide variety of recreational resources that are managed in 10 Special Recreation Management Areas (SRMA) (Table 7) and in the Extensive Recreation Management Areas (ERMA). SRMAs are those areas where management is designed to specific recreation activities or for a specific recreation experience or opportunity. The ERMAs are those areas where recreational uses are not managed to a specific activity or experience and the opportunities for a wide variety of dispersed recreation activities that do not require constructed facilities is available.

Figure 12. Visual resource management classes within the analysis area.

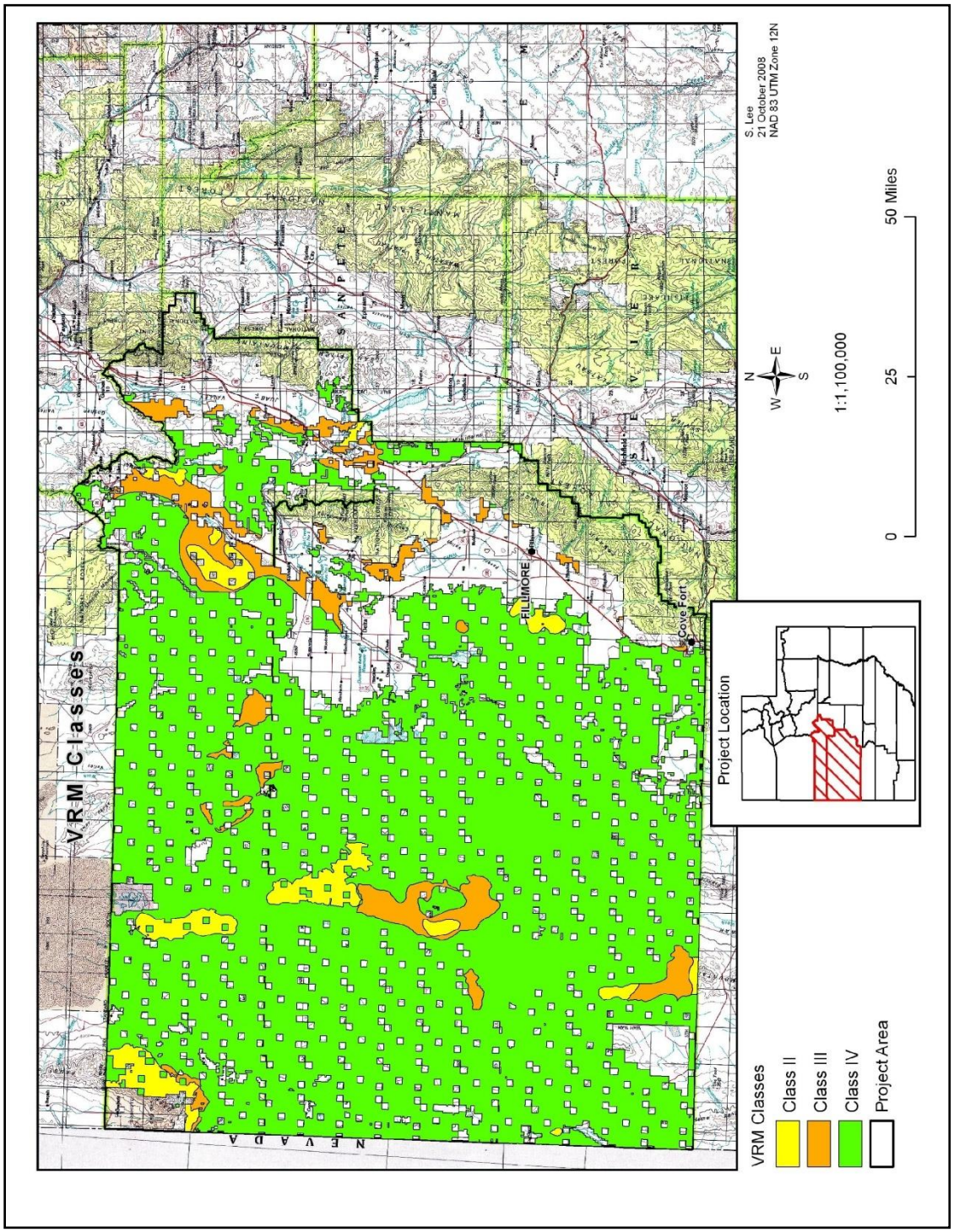


Table 7. SRMAs in the analysis area.

RMP	SRMA
Warm Springs Resource Area	Tabernacle Hill Lava Field
	Wah Wah Mountains
House Range Resource Area	Little Sahara Recreation Area
	Deep Creek Mountains
	Swasey Mountains
	Gandy Mountain Caves
	Yuba Reservoir
	Topaz Mountain Rockhounding Area
	Antelope Springs Cave
	Sheeprock/Tintic ORV Area

Recreational use in eight of the ten SRMAs in the field office is conducted primarily by local residents pursing rockhounding, hunting and or sightseeing/photography and OHV riding. The resource areas offer deer, antelope, chukar and limited sage grouse and ring necked pheasant hunting. The Little Sahara Recreation Area and Yuba Lake Recreation Area both receive extensive use from recreational users outside of the field office area. Both of these SRMAs are recreational destination sites for boating and OHV uses. Little Sahara Recreation Area receives approximately 40,000+ recreationists over the Easter weekend alone and Yuba Lake averages 45,000 visitations per month during the summer season. The amount of use these two SRMAs receive has resulted in an expansion of and/or upgrading of recreation facilities at each site.

3.2.16 Geology and Mineral Resources

The analysis area is located within the Basin and Range physiographic province. This region contains many individual mountain ranges, most of them trending north/south. The ranges are separated by arid desert basins. The mountains in this region are fault-block mountains that developed in Oligocene and Miocene time. The geology of the analysis area is made up of an unusual assemblage of sedimentary, igneous, and metamorphic rocks (Stokes 1987).

3.2.17 Lands/Access

The proposal involves 5 million acres of Federal BLM administered surface lands in Juab and Millard Counties. The Interstate-15 right-of-way (ROW) corridor cuts north-south through the analysis area. It is subject to below the surface of the ground uses only. Oil and gas wells and future associated facilities could affect corridors and the use for which they have been designated.

Rights-of-way on the potentially affected tracts of BLM administered surface include, but are not limited to, electrical transmission lines, highways, county maintained roads, BLM maintained roads, other existing roads, private roads, and telephone lines. Access to BLM administered lands is available on existing roads and is minimal in some areas. Additional access would need to be negotiated with respective landowners by mineral lessees for each project which arises from this EA. The right-of-ways in the analysis area all constitute large investment of time and money as well as being an important part of the infrastructure.

In the FFO there the surface land ownership is federal, state and private. Both the federal and state lands are then owned or function under many different governing agencies or mandates. One example of this is the Pittman-Robertson land that is managed by the states and was established by the Pittman-Robertson Wildlife Restoration Act. The Pittman-Robertson Wildlife Restoration Act provides federal aid to the states for the management and restoration of wildlife. The aid, funded through an excise tax on sporting arms and ammunition, may be used to support a variety of wildlife projects, including acquisition and improvement of wildlife habitat. Wildlife-restoration project selection, acquisition, restoration, rehabilitation, improvement and maintenance of areas of land or water adaptable as feeding, resting or breeding places for

wildlife; also includes research into problems of wildlife management. Secretary of the Interior (Secretary) provides federal aid to state fish and game departments through the US Fish and Wildlife Service for wildlife restoration projects. To be eligible for federal funds, a state must assent to the provisions of the Act and have laws governing the conservation of wildlife. Additionally, a state must have a law prohibiting the diversion of license fees paid by hunters for any purpose other than the administration of the state's fish and game department. All wildlife-restoration projects aided under the Act must be agreed upon by the Secretary and the fish and game department of the state where the project is located. There are approximately 41,081 acres of Pittman-Robertson Lands within the FFO that are managed as State Wildlife Reserves/Management Areas by the State of Utah Division of Wildlife Resources (UDWR). These lands fall under the category of coordination lands and may or may not be leased depending upon agreements reached upon by the UDWR, FWS, and BLM (43 CFR §3101.5-2) since they are split estate lands and BLM retains the mineral rights.

3.2.18 Wilderness Characteristics

Under section 201 of FLPMA, the BLM has the authority to conduct inventories for wilderness characteristics on public lands under its administration. BLM has conducted two statewide inventories for wilderness character, one in 1979 and the other in 1999. The 1979 inventory resulted in the currently existing FLPMA Section 603 Wilderness Study Areas. The 1999 inventory of public lands was associated with the HR-1500 wilderness bill that was before the 106th Congress. This inventory identified approximately 76,256 acres that were determined to possess wilderness characteristics in the FFO. Areas determined to possess wilderness characteristics are generally contiguous to existing WSAs. The 1999 inventory determined the following areas to have wilderness characteristics: Conger Mountain, Deep Creek Mountains, Dugway Mountains, Fish Springs, Howell Peak, King Top, North Wah Wah Mountains, Notch Peak, Rockwell, and Swasey Mountain (Table 8). One area found to possess wilderness characteristics that is not contiguous to an existing WSA is the Dugway Mountains (Table 8).

Table 8. Wilderness Character Acreage Summary for 1999.

Inventory Area	Acres
Conger Mountain	1,726
Deep Creek Mountains*	13,481
Dugway Mountains*	6,250
Fish Springs	7,965
Howell Peak	1,256
King Top	1,820
North Wah Wah Mountains*	12,739
Notch Peak†	12,377
Rockwell	7,120
Swasey Mountain	14,522
Total	**76,256**

*This acreage reflects only those parcels of these inventory areas under the administration of the FFO.

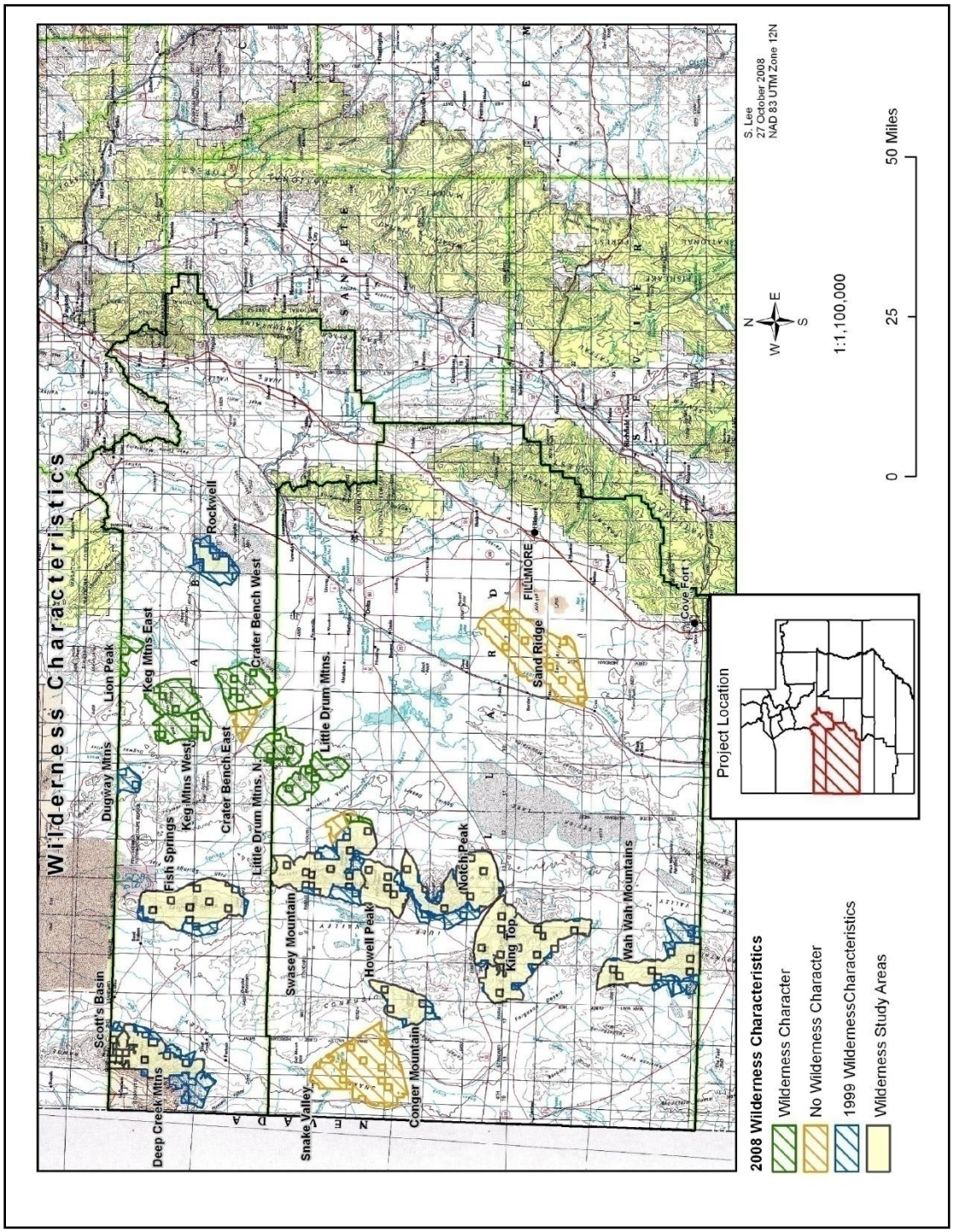
†This acreage does not include state lands recently acquired and currently administered under IMP.

Special interest groups recently identified 45 additional areas within the analysis area that they contend possess wilderness characteristics. BLM has reviewed one in 2004 and ten areas 2008. Of these eleven areas, Sand Ridge (73,662 acres), Snake Valley (74,078 acres) and 18,954 acres in portions of six other review areas were determined not to possess wilderness characteristics. The following eight locations were found to possess wilderness characteristics: Crater Bench East, Drum Mountains, Keg Mountains East, Keg Mountains West, Lion Peak, Little Drum Mountains, Little Drum Mountains North, and Swasey Mountain Addition (Table 9) (Figure 13).

Table 9. Non-WSA BLM land with Wilderness Characteristics in the analysis area.

Location	Acres of BLM Land
Crater Bench East	23,203
Drum Mountains	16, 157
Keg Mountains East	19, 763
Keg Mountains West	19, 316
Lion Peak	5, 939
Little Drum Mountains	10, 273
Little Drum Mountains North	13, 967
Swasey Mountain Addition	6, 444
Total	**115,062**

Figure 13. Non-WSA Lands with Wilderness Characteristics.



4 ENVIRONMENTAL CONSEQUENCES

This chapter discusses the environmental consequences of implementing the alternatives described in Chapter 2. Under NEPA, actions with the potential to affect the quality of the human environment must be disclosed and analyzed in terms of direct and indirect effects – whether beneficial or adverse and short or long term – as well as cumulative effects. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects are caused by an action and occur later or farther away from the resource but are still reasonably foreseeable. Cumulative effects are the effects on the environment that result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions.

The No Action Alternative (Offer Leases Consistent with the existing LUPs), serves as a baseline against which to evaluate the environmental consequences of the Proposed Action Alternative (Offer Leases with Additional Resource Protective Measures) and the No Leasing Alternative. The No Leasing Alternative serves as the baseline for comparison of impacts of the oil and gas leasing program in the Field Office. For each alternative, the environmental effects are analyzed for the resource topics that were carried forward for analysis in Chapter 3.

4.1 Analysis Assumptions and Guidelines

Leasing is an administrative action that affects economic conditions but does not directly cause environmental consequences. However, leasing is considered to be an irretrievable commitment of resources because the BLM generally cannot deny all surface use of a lease unless the lease is issued with a NSO stipulation. Potential oil and gas exploration and production activities, committed to in a lease sale, could impact resources and uses in the analysis area. Direct, indirect, or cumulative effects to resources and uses could result from as yet undetermined and uncertain future levels of lease exploration or development. In order to provide a basis for analysis, the Reasonably Foreseeable Development (RFD) scenario is applied to each of the alternatives analyzed in detail. The RFD scenario is a long term projection of oil and gas exploration, development, production, and reclamation activity in a defined area for a specified period of time and serves as an analytical baseline assumption for identifying and quantifying direct, indirect, and cumulative effects of oil and gas activity under standard lease terms and conditions on all potentially productive areas open to oil and gas and leasing. It forms the foundation for the analysis of the effects of oil and gas management decisions.

In general, the BLM Utah State Office (USO) conducts a quarterly competitive lease sale to sell available oil and gas lease parcels in the state. In the process of preparing a lease sale the BLM USO compiles a list of lands nominated and legally available for leasing, and sends a draft parcel list to each field office where the parcels are located. Field office staff then review and verify that the parcels are in areas open to leasing; that appropriate stipulations and notices have been included; that any new information that has become available or any circumstances that have changed are assessed to determine whether additional analysis is required; that other consultations have been conducted, if necessary; and that any special resource conditions are identified for potential bidders. The field office then either determines that existing analyses provide an adequate basis for leasing recommendations or that additional NEPA analysis is needed before making a leasing recommendation. Once the draft parcel review is completed and returned to the USO, a list of available lease parcels and stipulations is made available to the public through a Notice of Competitive Lease Sale (NCLS). Lease stipulations and notices applicable to each parcel are specified in the sale notice.

As described in Chapter 1, this analysis represents a programmatic assessment of the effects of leasing in the FFO; at the time of this review, it is unknown whether a parcel will be sold or a lease issued. Furthermore, it is unknown when, where, or if future well sites or roads might be proposed. Although no site-specific activities are specified, analysis of projected surface disturbance impacts, should a lease be explored, was estimated based on the RFD in the supplemental EA for Oil and Gas Leasing, House Range Resource Area and the RFD in the supplemental EA for Oil and Gas Leasing, Warm Springs Resource Area, both prepared in 1988. During preparation of this EA, BLM reviewed the geological condition, results of oil and gas drilling, current oil and gas development technology, and economic conditions and determined that the RFD is still adequate for analysis purposes. If leases are offered, purchased, and issued typical subsequent exploration and initial development may include the construction of drill pads, and access roads described below. Detailed site specific analysis of individual wells or roads would occur when a lease holder submits an Application for Permit to Drill (APD). This EA would be used to determine the necessary administrative actions, stipulations, lease notices, special conditions, or restrictions that would be made a part of an actual lease at the time of issuance. Under all alternatives, continued interdisciplinary support and consideration would be required to ensure on the ground implementation of planning objectives, including the proper implementation of stipulations, lease notices and Best Management Practices (BMPs) through the APD process. If it is determined that this EA adequately analyzes potential impacts and addresses the use of referenced conservation measures, BLM may prepare a worksheet for Determination of NEPA Adequacy (DNA) rather than additional NEPA documents prior to offering future leases.

Standard lease terms provide for reasonable measures to minimize adverse impacts to specific resource values, land uses, or users (Standard Lease Terms are contained in Form 3100-11, Offer to Lease and Lease for Oil and Gas, Appendix C). Although once the lease has been issued, the lessee has the right to use as much of the leased land as necessary to explore for, drill for, extract, remove, and dispose of oil and gas deposits located under the leased lands, operations must be conducted in a manner that avoids unnecessary or undue degradation of the environment and minimizes adverse impacts to the land, air, water, cultural, biological, and visual elements of the environment, as well as other land uses or users. Compliance with valid, nondiscretionary statutes (laws) is included in the standard lease terms and would apply to all lands and operations that are part of all of the alternatives. Nondiscretionary actions include the BLM's requirements under federal environmental protection laws, such as the Clean Water Act, Clean Air Act, ESA, NHPA, and FLPMA, which are applicable to all actions on federal lands even though they are not reflected in the oil and gas stipulations in the RMP and would be applied to all potential leases regardless of their category. Also included in all leases are the two mandatory stipulations for the statutory protection of cultural resources (BLM Washington Office Instruction Memorandum No. 2005-03, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing) and threatened or endangered species (BLM Washington Office Instruction Memorandum No. 2002-174, Endangered Species Act Section 7 Consultation), described in Section 2.3. BLM would also encourage industry to consider participating in EPA's Natural Gas STAR program under all alternatives. The program is a flexible, voluntary partnership between EPA and the oil and natural gas industry wherein EPA works with companies that produce, process, transmit and distribute natural gas to identify and promote the implementation of cost-effective technologies and practices to reduce emissions of methane, a greenhouse gas.

For purposes of the effects analysis, the RFD and the primary construction, operations, and abandonment elements described below would be similar for the Proposed Action and No Action alternatives; however because of the additional resource protective measures addressed in the Proposed Action alternative, locations of some facilities may be different to reduce the potential for effects to resources.

Reasonably Foreseeable Development

As described above, the RFD scenario serves as an analytical baseline for identifying and quantifying direct, indirect, and cumulative effects of oil and gas activity and forms the foundation for the analysis of the effects of oil and gas management decisions in planning and environmental documents. The RMPs and Supplemental EAs describe in detail fluid minerals leasing and operations and RFD scenarios for the analysis area. In those analyses it was estimated based on past drilling history that exploratory wells would continue to be drilled in the entire Fillmore District at the rate of about one well every year for the foreseeable future. It was further estimated that the drilling targets would continue to be primarily anticlinal structures in the eastern part of the district where recoverable oil and gas is anticipated to be low. The current rate of drilling, extent of disturbance, and magnitude of impacts are within the projection made in the Supplemental EA.

For the purposes of this analysis, the main assumption is that the RFD over a 10-year period for the analysis area would be 10 exploratory we1ls (1 well every year × 10 years). This would include a 10-acre disturbance from well sites (1 acre/well × 10 wells = 10 acres maximum) and a 5-acre disturbance from access roads (10 wells x 5 acres = 50 acres maximum) for a total disturbance of 60 acres. The RFD scenario is based on the actual level of activity that has occurred since planning which has been well within the projected disturbance scenario.

Well Pad and Road Construction

Equipment for well pad construction would consist of dozers, scrapers, and graders. Topsoil from each well pad would be stripped to depth and stockpiled for future reclamation. The topsoil would be seeded with native species of plants and left in place for the life of the well, then used during the final reclamation process. Disturbance for each well pad would be estimated at an area of approximately 175 feet by 250 feet (~1 acres of land), including topsoil piles. For this analysis, it was assumed that disturbance for well pads could be as high as 6 acres per well to account for any access roads and well pad construction. Disturbed land would be seeded with a mixture and rate as recommended or required by the BLM.

Depending on the locations of the proposed wells it is anticipated that some new or upgraded access roads would be required to access well pads and maintain production facilities. Construction of new roads or upgrades to existing roads would require a 30-foot wide right of way (ROW) and would be constructed of native material. It is not possible to determine the distance of road that would be required because the location of the wells would not be known until the APD stage. However, for purposes of analyses it is assumed that disturbance from access roads would be similar to development in other areas (~5 acres of disturbance).

All operations would be conducted following the "Gold Book" Surface Operating Standards for Oil and Gas Exploration and Development (BLM 2007b). The Gold Book was developed to assist operators by providing information on the requirements for conducting environmentally responsible oil and gas operations on federal lands. The Gold Book provides operators with a combination of guidance and standards for ensuring compliance with agency policies and operating requirements, such as those found at 43 CFR 3000 and 36 CFR 228 Subpart E; Onshore Oil and Gas Orders (Onshore Orders); and Notices to Lessees. Included in the Gold Book are environmental BMPs; these measures are designed to provide for safe and efficient operations while minimizing undesirable impacts to the environment.

Exploration and development on split-estate lands is also addressed in the Gold Book, along with IM 2003-131, *Permitting Oil and Gas on Split-estate Lands and Guidance for Onshore Oil and Gas Order No. 1*, and IM 2007-165, *Split-estate Report to Congress – Implementation of Fluid Mineral Leasing and Land Use Planning Recommendations*. Proper planning and consultation, along with the proactive incorporation of these BMPs into the APD Surface Use Plan of Operations (SUPO) by the operator, will typically result in a more efficient APD and environmental review process, increased operating efficiency, reduced long-term operating costs, reduced final reclamation needs, and less impact to the environment.

Produced Water Handling

Water is often associated with either produced oil or natural gas. Water is separated out of the production stream and can be temporarily stored in the reserve pit for 90 days. Permanent disposal options include surface discharge pits or underground injection. Handling of produced water is addressed in Onshore Oil and Gas Order No. 7.

Plugging and Abandonment

If the wells do not produce economic quantities of oil or gas, or when it is no longer commercially productive, the well would be plugged and abandoned. The wells would be plugged and abandoned following specifications from a BLM Petroleum Engineer, which would include requiring cement plugs at strategic positions in the well bores. All fluids in the reserve pit would be allowed to dry prior to reclamation work. After fluids have evaporated from the reserve pit, sub-soil would be backfilled and compacted within 90 days. If the fluids within the reserve pit have not evaporated within 90 days, the fluid would be pumped from the pit and disposed of in accordance with applicable regulations. The well pad would be recontoured, and topsoil would be replaced, scarified, and seeded within 180 days of the plugging the well.

March 2009 Lease Sale

Appendix J contains a report specific to the FFO March 2009 Lease Sale. The resource report includes information about the parcels that were first introduced for the December 2008 Oil and Gas Lease Sale (parcels beginning with UT1108-) and then were deferred until the completion of this analysis and now are considered the March 2009 Lease List. It incorporates the programmatic analysis for the resources from the following discussions in Chapter 4. Likewise, Appendix K contains maps illustrating the corresponding parcel locations.

4.2 Issues Carried Forward for Analysis

4.2.1 Areas of Critical Environmental Concern

Proposed Action Alternative

Management direction for ACECs is identified in the supplements to the WSRA RMP and the HRRA RMP (Table 10). Pahvant Butte, Wah Wah Mountain, Gandy Mountain Caves, Fossil Mountain, and Tabernacle Hill ACECs do not allow any occupancy or disturbance to land surface under management prescriptions. Lease holders may exploit oil and gas resources by directional drilling from outside the area (Category 3). Directional drilling would not impair the values for which the ACEC was designated. However, Wah Wah Mountain ACEC and Fossil Mountain ACEC are also located within Wah Wah Mountains WSA and King Top WSA, respectively.

In accordance with IMP (H-8550-1) and leasing regulations (43 CFR 3100 (2) (viii) wilderness study areas are closed to fluid mineral leasing, directional drilling into these two ACECs would not be authorized. Rockwell Natural Area and Gandy Salt Marsh are closed to leasing (Category 4). Peregrine falcons reintroduced to Pahvant Butte could forage in adjacent areas where directional drilling occurs. However, this area would be small relative to available foraging habitat.

Table 10. ACEC Leasing Category Designations.

ACEC	Acres	Relevant and Important Values
Category 3 ACECs (Open lease area subject to NSO) 15,077 Acres		
Pahvant Butte	2,500	scientific educational values, potential for peregrine falcon reintroduction, and recreation potential
Wah Wah Mountain†	5,970	presence of Great Basin mountain ecosystem in an undisturbed condition
Gandy Mountain Caves	1,120	limestone caverns which contain unique mineral deposits
Fossil Mountain†	1,920	Prehistoric life form
Tabernacle Hill	3,567	Unusual volcanic features, lava fields
Category 4 (Closed to leasing) 11,900 acres		
Gandy Salt Marsh*	2,270	Unique biological, riparian
Rockwell Natural Area	9,630	Sand dunes

†Wah Wah Mountain and Fossil Mountain are designate as Category 3 under the RMPs, but because of their location in a WSA, they are closed to leasing.

***** Gandy Mountain Salt Marsh is designated Category 4 due to the presence of Least Chub habitat, not relevant and important ACEC values.

Because all of the ACECs in the analysis area would be closed to leasing or leased only with a NSO stipulation, none of the relevant and important values of the ACECs would be directly affected. The only indirect effect on ACECs values would be minor affects on the peregrine and recreational values of the Pahvant Butte ACEC. Oil and gas activities near the ACEC could result in minor loss of foraging habitat for peregrine falcons and alteration of the recreational setting.

No Action Alternative

Management direction for individual ACECs is found in the decisions for the Oil and Gas Implementation EAs for HRRA and WSRA RMPs (Table 10). Pahvant Butte, Wah Wah Mountain, Gandy Mountain Caves, Fossil Mountain, and Tabernacle Hill ACECs do not allow any occupancy or disturbance to land surface. Lease holders may exploit oil and gas resources by directional drilling from outside the area (Category 3). Directional drilling would not impair the values for which the ACEC was designated. However, Wah Wah Mountain ACEC and Fossil Mountain ACEC are also located within Wah Wah Mountains WSA and King Top WSA, respectively. In accordance with IMP (H-8550-1) and leasing regulations (43 CFR 3100 (2) (viii) wilderness study areas are closed to fluid mineral leasing, directional drilling into these two ACECs would not be authorized. Rockwell Natural Area and Gandy Salt Marsh are closed to leasing (Category 4). Peregrine falcons reintroduced to Pahvant Butte could forage in adjacent areas where directional drilling occurs. However, this area would be small relative to available foraging habitat.

Because the ACECs would be closed to leasing or leased only under NSO stipulations, impacts on relevant and important ACEC values would be the same as with the Proposed Action.

No Leasing Alternative

Under this alternative the BLM would prohibit leasing and thus would not permit any development or disturbance of the land surface. As compared to the Proposed and No Action Alternatives, this alternative would avoid any potential for direct or indirect impacts to the relevant and important values of ACECs, including the peregrine falcon and recreational values of the Pahvant Butte ACEC.

4.2.2 Cultural Resources

In accordance with law and policy, cultural resources clearances and mitigations are required prior to construction or development on all projects involving surface disturbing activities.

No Action Alternative

Cultural resources may occur on lands included in future leases and may be altered by activities related to oil and gas leasing. Equipment used in constructing well pads or roads would result in ground disturbance to both surface and subsurface sediments, increasing the opportunity for both direct and indirect impacts to cultural resources. Increased human activity in the area also would increase the possibility of damage to, or removal of, cultural resources in areas with oil and gas activity. Adverse effects could also include introduction of visual, atmospheric, or audible elements that diminish the integrity of a property's historic features.

The potential for conflicts between leasing and the ability to protect cultural resources would generally be related to the size of an individual lease parcel in relation to the density of known or unknown sites within that parcel. For instance, the larger the parcel, the less chance there would be for conflict between leasing (and development) and cultural resources because of the ability to move the well to a different location within the parcel. Most leases in the analysis area would allow for locating one well within a parcel without resulting in adverse effects; a particular locality within a lease area could be unavailable, but some other portions of the parcel would likely be available and suitable for exploration and development.

The majority of the areas in the analysis area are of a low to medium cultural resource site density, in which case it is assumed that adverse effects would not result from leasing with appropriate cultural protections (described below) if the parcels are larger than 40 acres in size. Higher density sites are not as common in the analysis area, but siting of one well within a parcel with high or very high site density could require additional mitigation up to and including avoidance of entire areas or deferral of entire parcels.

Under the No Action alternative, both the standard and special lease terms – including the 200 meter/60-day rule – that would apply to future leases provide for reasonable measures to minimize adverse impacts to most cultural resources in the analysis area. In addition, the Cultural Resources and Tribal Consultation for Fluid Minerals Leasing stipulation (described in Section 2.3) would be attached to all leases.

Because the precise location of any development activity is not known until the APD stage, an assessment of site-specific effects would be made at that time and any future undertaking related to oil and gas lease would be subject to compliance with all federal laws, including Section 106 of the NHPA, as well as agency guidance. Site specific cultural resource surveys and appropriate mitigation measures are required as part of the APD process after parcels are leased. NRHP-eligible or listed sites would be avoided. If objects of cultural value are encountered during construction, all work affecting the resource would stop and the BLM would be contacted so that mitigating measures could be identified and carried out. These measures are generally protective enough that additional mitigation would not be needed for most leases within the analysis area.

The BLM will not approve any ground disturbing activities that may affect cultural properties eligible to the National Register of Historic Places (NRHP) until it completes its obligations under applicable requirements of the NHPA and other authorities. On all parcels, once a project specific proposal is submitted, an additional Section 106 cultural resource assessment would be completed and site specific issues would be addressed as appropriate. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated on the 60 acres described in the RFD.

Consultation with SHPO is ongoing and will be completed prior to the leases being offered. The BLM is requesting the SHPO to concur with BLM determination of effects for both site specific and programmatic analysis. Based on the ability to avoid or otherwise mitigate potential impacts to cultural properties, no historic properties would be expected to be impacted for most of the locations within the analysis area, based on the conclusion that at least one well could be located on some parcels without adversely affecting cultural resources. As such, a Class I Cultural Resources Inventory was prepared for a small portion of this sale and is presented in Appendix F.

Areas that could be affected by leasing would include a 5-7 mile radius surrounding sites listed on the National Register of Historic Places, National Historic Landmarks and National Historic Trails. Although reasonable development could occur within the Fillmore Field Office administrative boundary based on site density, the above mentioned resources have a critical visual component that could be adversely affected by oil and gas development.

According to 36CFR800.5(1) "An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative." 36CFR800.5 (2) includes these examples of adverse effects "(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;"

Development introduced to a landscape may cause adverse effects to the landscape and surrounding historic properties in a variety of ways. Adverse visual effects can be caused by a change in aesthetic values or by obstruction of views. In regard to a historic property, adverse visual effects are those that diminish the property's integrity, which negatively affect its historic significance and hence its eligibility for listing in the National Register of Historic Places (NRHP). Any intrusion on the landscape would require further analysis by a professional archaeologist, in consultation with interest groups associated with the above listed sites, the Advisory Council on Historic Preservation and the SHPO to determine if development would result in an adverse effect to historic properties.

Proposed Action Alternative

Effects to cultural resources under the Proposed Action alternative would be similar to those described above for the No Action alternative because the same types of protections would be implemented. In addition, however, application of conditional NSO could occur under this alternative where necessary to protect cultural resources. This would preclude establishment of wells or well pads or construction of roads, pipelines, or power lines on the BLM-managed land

within a lease parcel. Any oil or gas extracted from the leases would have to come from wells directionally drilled at an angle underground from adjacent or nearby private or public lands.

No Leasing Alternative

Under this alternative, lands would not be leased and cultural resources would receive the greatest amount of protection. This alternative would be implemented where the standard stipulations and BMPs under the No Action and Proposed Action alternatives were considered inadequate to protect the resource from indirect effects of exploration and development. NSO would prevent direct impacts on a lease but not necessarily indirect impacts because oil and gas related activities could occur in areas surrounding an offered parcel. No leasing would prevent both direct and indirect impacts because no activities would occur in the analysis area.

4.2.3 Native American Religious Concerns

No Action Alternative

Effects to Native American Concerns from the No Action alternative would be similar to those described for cultural resources. The same protective measures (e.g., 200 meter/60-day rule, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing stipulation) would be applied to provide for reasonable measures to minimize adverse impacts.

Proposed Action Alternative

Effects to Native American Concerns under the Proposed Action alternative would be similar to those described above for the No Action alternative because the same types of protections would be implemented. If it is determined that application of the Cultural Resources stipulation (IM 2005-03) would not provide sufficient protection of resources in an area, application of NSO could occur where necessary to protect Native American Concerns and TCPs. This would preclude establishment of wells or well pads or construction of roads, pipelines, or power lines on the BLM-managed land within areas of concern. Any oil or gas extracted from the leases would have to come from wells directionally drilled at an angle underground from adjacent or nearby private or public lands.

Based on existing Native American Concerns, it has been indicated that adverse impacts to Traditional Cultural Properties could occur in some areas. Native American consultation will be completed prior to the lease offering.

No Leasing Alternative

This alternative would be implemented where the standard stipulations and BMPs under the No Action and Proposed Action alternatives were considered inadequate to protect the resource from effects of exploration and development. Under this alternative, Native American Concerns would receive the greatest amount of protection through the exclusion of leasing in the area.

4.2.4 Floodplains

No Action Alternative

Soil disturbing activities such as oil and gas exploration and development could result in damage to floodplains. Development and occupancy of any leases would require incorporation of the best management practices or mitigation of planning for the 100 year flood event in the design of the project. Under most circumstances a 200 meter movement (200 meter/60-day rule) of well pads would mitigate any detrimental effects to floodplains within a 60 acre RFD. Floodplain associated with riparian or wetland areas would be avoided.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be the same as those discussed under the No Action alternative; in additional lease notice would be attached to any lease parcel proposing development within a floodplain. As per the provisions Departmental Manual 520 DM 1, BLM must avoid short and long term adverse impacts associated with occupancy or development in a floodplain.

No Leasing Alternative

Under this alternative the BLM would prohibit leasing within the analysis area and thus would not permit any development or disturbance of the land surface. In light of the small amount of disturbance that would occur over the analysis area and protective measures implemented under the Proposed Action alternative.

4.2.5 Threatened, Endangered, or Candidate Animal Species

No Action Alternative

Oil and gas exploration and development could affect threatened and endangered wildlife resources in a variety of direct and indirect ways including direct loss of habitat; physiological stress; disturbance and displacement of individuals or populations; habitat fragmentation; introduction of competitive or non-native organisms; and secondary effects and indirect habitat loss, including sedimentation or other loss of habitat functionality. All leases would include the lease stipulation for the protection of threatened or endangered species (per BLM Washington Office Instruction Memorandum No. 2002-174, Endangered Species Act Section 7 Consultation), as described in Section 2.2. Any future leases would also contain a compliance notification that states "If in the conduct of operations, threatened or endangered species, objects of historical or scientific interest, or substantial unanticipated environmental effects are observed, the lessee will immediately contact the lessor. The lessee shall cease any operations that would result in the destruction of such species or objects."

BLM is required under Section 7 of the ESA to consult on all federal actions that may impact ESA-listed species. California condor, Utah prairie-dog, and yellow-billed cuckoo were not known or suspected to occur within the FFO at the time the current RMP was developed. Without specific mitigation for these species in the RMPs or the supplements to the RMPs, formal consultation was needed between the FWS and BLM to address impacts to these species associated with land use planning actions within the field office. BLM and FWS personnel completed programmatic Section 7 consultation work that resulted in a set of standard, species-specific lease notices that contain Conservation Measures for listed species that are to be attached to any fluid mineral lease offered in Utah where the species is known to exist or there may be potential habitat for the species. These measures include temporal and spatial buffers to protect known or suitable habitat for these species. The Conservation Measures also require that surveys be conducted, according to FWS protocol, prior to any disturbance related activities that have been identified to have the potential to impact threatened and endangered species.

Inclusion of these measures at the lease stage, and compliance with these measures during energy development activities, would ensure that potential effects to listed species are insignificant or discountable, in part by avoiding impacts to sensitive habitats, and by avoiding disturbances during crucial life history seasons (i.e., nesting, breeding or wintering). These measures would also provide full disclosure to the lessee of potential environmental concerns and strategies to minimize effects to listed species. FWS concurred with the BLM determination that where these measures are incorporated into future proposals, there is a greater likelihood that BLM will meet the standard of "*may affect, but not likely to adversely affect*" species listed under the ESA.

However, if these measures are not implemented, early coordination and additional Section 7 consultation with FWS would be necessary.

There are 8,521 acres of mapped Utah prairie-dog habitat within the analysis area, including a half mile buffer which is a conservation measure. Most (6,960 acres) of the mapped habitat occurs within Category 2 lands, but 1,561 acres occur on land designated as Category 1. Potential impacts to Utah prairie dogs from oil and gas exploration and extraction include habitat loss and degradation, disturbance, and road mortality. For analysis purposes, if all 60 acres of exploration activity associated with the RFD were to occur within the mapped Utah prairie dog habitat, it would result in disturbing approximately 0.7% of the known habitat. Habitat degradation and loss occurs through vegetation crushing, increased soil erosion or soil compaction, and introduction or proliferation of invasive weeds (particularly cheatgrass) that degrade prairie dog habitat (Rosmarino 2003) would also affect Utah prairie dog populations.

To minimize potential impacts of oil and gas activities on Utah prairie dogs, the FWS and BLM have developed a set of avoidance and minimization measures for Federal oil and gas leases within this species' range. These measures currently apply to all BLM leasing activities within the Utah prairie dog's range, and lessees who follow these guidelines are provided a streamlined Section 7 consultation process. Controlled surface use and timing limitations implemented under this alternative would provide protection for Utah prairie dogs and their habitat within the analysis area. BLM projects would be designed to avoid direct disturbance to populations and habitat wherever possible based on recommendations in the Conservation Measures from LUP-Level Consultations for T&E Species of Utah (BLM 2006d). Consultation related to this species has occurred with FWS on past fluid mineral leasing projects and the FWS concurred that use of the species specific lease notices on appropriate parcels would result in a "may affect, not likely to adversely affect" determination for listed species. Surface occupancy or other surface disturbing activity would be avoided within 0.5 mile of active prairie dog colonies, and permanent surface disturbance or facilities would be avoided within 0.5 mile of potentially suitable, unoccupied prairie dog habitat, as identified and mapped by Utah Division of Wildlife Resources since 1976. Furthermore, speed limits would be set at 25 mph on operator-created and maintained roads in occupied prairie dog habitat and/or travel would be restricted between April 1 and September 30 when prairie dogs are more likely to be active above ground. Speed restriction of 25 miles per hour in Utah prairie dog occupied habitat is expected to limit prairie dog mortality. These buffers and timing limitations would protect Utah prairie dogs from disturbance caused by gas and oil exploration and development.

The Utah prairie dog stipulation provides adequate protection for this federally listed species. Although a No Surface Occupancy stipulation or no leasing would provide additional protection for this species, the FWS has concurred that the controlled surface use under the Utah Prairie Dog Stipulation would not result in adverse affects (FWS 2004). In addition, the BLM Land Use Planning Handbook 1601-1 states that, "When applying leasing restrictions, the least restrictive constraint to meet the resource protection objective should be used."

Yellow-billed cuckoo habitat has not been mapped by the BLM or UDWR so it is unknown where habitat for this species occurs. Because it is a riparian species, its habitat will be protected by stipulations placed on riparian and wetland areas in the HRRA (500 foot buffer protecting riparian areas), but no additional protection is provided for riparian areas in the WSRA.

Proposed Action Alternative

As in the No Action alternative, the species-specific lease notices developed as part of the Section 7 Consultation for Oil and Gas Lease Sales (FWS 2004) between the BLM and FWS would be attached to applicable oil and gas lease sales to protect the threatened, endangered and candidate species that may occur within the analysis area on every category of land. Effects from implementation of these resource protective measures – such as seasonal restrictions, prohibition on seasonal occupancy, restriction on location of structures and surface disturbance – would be the same as the No Action alternative assuming that these measures would be implemented in a way that would satisfy Section 7 consultation requirements. These lease notices are anticipated to protect ESA-listed species habitats and individuals that may occur within the analysis area, and result in a determination of "*may affect, not likely to adversely affect*" for gas and oil exploration and development.

No Leasing Alternative

Implementation of the No Leasing alternative would provide additional protection for ESA-listed species or their habitat. Because no surface disturbance would occur, the potential for adverse impacts to threatened and endangered species under this alternative would be eliminated.

4.2.6 Fish and Wildlife, including Special Status Species other than FWS candidate or listed species (e.g., migratory birds)

No Action Alternative

General Wildlife

Oil and gas exploration and development could affect wildlife resources in a variety of direct and indirect ways. Sufficient information – gathered from oil and gas exploration and development activities elsewhere in Utah, coupled with documented observation of environmental consequences of habitat alterations – exists to programmatically assess the potential impacts of oil and gas leasing and development on these lands. Environmental effects of the alternatives are likely to be similar to other surface and habitat disturbing activities that affect aquatic and terrestrial species of wildlife and would be the same as those described above for threatened and endangered species (i.e., direct loss of habitat; physiological stress; disturbance and displacement of individuals or populations; habitat fragmentation; introduction of competitive or non-native organisms; and secondary effects and indirect habitat loss).

The majority of the lands in the analysis area would be available for leasing with standard lease terms. General protection for wildlife species is provided in accordance with 43 CFR 3162.5-1(a) and Section 6 of the standard lease form (Form 3100-11), which states that the "Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air and water, and to cultural, biological, visual, and other resources, and other land uses or users. Lessee shall take reasonable measures deemed necessary by lessor to accomplish the intent of this section."

The supplements to the WSRA RMP and the HRRA RMP identified lands in the analysis area that would be leased with special stipulations, such as timing or controlled surface use stipulations for crucial deer and elk winter and summer range, crucial raptor nesting areas, and riparian areas (Table 1 and maps in Appendix G). In areas where these wildlife species or range were identified in the WSRA RMP and the HRRA RMP supplements, implementation of these stipulations would protect these resources by limiting disturbance within this habitat during the time period when it would have the most detrimental impact. However, in areas where new information is available or where ranges have expanded since the development of the WSRA RMP and the HRRA RMP supplement, protection to these resources would be afforded through

the use of lease notices. Thus, the No Action alternative would similarly protective of these resources as the Proposed Action alternative.

The WSRA RMP supplement include a timing limitation restricts for identified crucial mule deer winter range for exploration, drilling, and other development activity between December 1 and April 30 of every year. The HRRA supplemental includes timing limitations for mule deer and elk winter range that does not allow activity from December 1 through April 30 of each year in designated areas. The same EA provides for protection for mule deer and elk summer range timing limitation from May 1 through Nov. 30 of every year for Category 2 lands. General protection for big game and their habitat not mentioned in the LUP's, or the Implementation EA's, would come from the ability to relocate disturbance areas up to 200 meters or to delay the activities 60 days under the 200 meter/60-day rule.

The WSRA RMP supplement imposes timing restrictions for protection of raptor nesting and roosting habitat. This timing limitation restricts exploration, drilling, and other development activity between March 1 and June 30 of every year. But for the area covered by the HRRA, generally protection for raptors and their habitat would come from the ability to relocate disturbance areas up to 200 meters under the 200 meter/60-day rule. However, the No Action alternative would not include the BMPs identified for raptors and their associated habitats (BLM 2006a) and so would not be as protective of these resources as the Proposed Action alternative.

The HRRA RMP supplement provides for a stipulation that prohibits occupancy or other surface disturbance associated with any development within 500 feet any perennial streams or springs on Category 2 land. This stipulation also provides protection for fisheries resources within the analysis area by reducing the potential for adverse impacts to riparian habitat and water quality. The WSRA RMP supplement does not contain any stipulations regarding surface disturbance to wetland or riparian areas, however, the ability to relocate disturbance areas up to 200 meters under the 200 meter/60-day rule generally provides protection to wetland and riparian areas, and therefore fisheries indirectly also. This rule would also somewhat protect this resource for the HRRA Category 1 land. The No Action alternative would not include any additional protection for wetland and riparian areas in the WSRA as the Proposed Action alternative would.

Although the amount of disturbance per well site would be small, the removal of vegetation associated with the development of a lease may result in the loss of forage and habitat and may result in the displacement of various wildlife species including small mammals, reptiles, birds, and insects. Overall this affect is expected to be small, given the small extent of disturbance dispersed over the large analysis area, in addition, rehabilitation after exploration and development activities would restore some of the lost forage and habitat in the long-term.

For analysis purposes, if all 60 acres of exploration activity associated with the RFD were to occur within the mapped habitat for elk, mule deer, pronghorn and big horn sheep, it would result in disturbing known habitat within the FFO on approximately:

- 0.01% of crucial winter elk habitat, 0.05% of summer/calving elk range and 0.09% yearlong elk habitat;
- 0.01% of crucial winter and fawning mule deer habitats;
- 0.001% of pronghorn yearlong range; and
- 0.04% of big horn sheep yearlong habitat.

Sensitive Animal Species

Effects to BLM sensitive animal species under the No Action alternative would be similar to those described above for general wildlife. Although the amount of disturbance per well site would be small, the removal of vegetation associated with the development of a lease may result in the displacement of BLM sensitive species including migratory birds. Implementation of avoidance measures, typically within the 200 meter/60-day rule and more where site-specific analysis supports the need to move greater distances, would provide protection where necessary to protect these species during crucial seasonal periods, such as nesting and wintering and in important habitats. As with general wildlife, protection to sensitive animal species would not necessarily occur in areas where new information is available or where ranges have expanded since the development of the WSRA RMP and the HRRA RMP supplements. Therefore, the No Action alternative would not be as protective of these resources as the Proposed Action alternative which would include additional resource protective measures for sensitive animal species.

Mitigations presented in the HRRA RMP supplement for the protection of some resources, such as riparian areas, would indirectly benefit some sensitive species such as certain migratory birds. However, no protection measures for sensitive species are included in the WSRA RMP/FEIS and the HRRA RMP/ROD. Where appropriate, and based on site-specific analysis, additional protective measures are needed to keep BLM sensitive species from trending toward being listed under the ESA. Minimization of this impact is considered a priority when locating individual disturbance sites and site-specific analysis would result in management decisions that limit disturbance and/or minimize the impacts of fragmentation for BLM-sensitive species. Similarly, no mitigation is included that require surveys to determine the presence or absence of BLM sensitive species or the subsequent avoidance if they are found to occur within the analysis area.

Proposed Action Alternative

General Wildlife

Additional protections for general wildlife and crucial habitats would be implemented under this alternative and the location and timing of some activities may be changed compared to the No Action alternative. Special stipulations for the protection of wildlife were identified in the WSRA RMP and the HRRA RMP supplements for areas where those resources were known (Table 1). Since that time, however, new information has become available and ranges of some animals have expanded into areas that would not be protected with the stipulations in the WSRA RMP and the HRRA RMP supplements. Therefore, the Proposed Action alternative would include additional resource protective measures for wildlife that would lessen the impacts from exploration and development activities to fish and wildlife species compared to the No Action alternative.

Provisions are present within Section 6 of the Standard Lease Form (BLM Form 3100-11, Appendix C) which states that the "…lessee must conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual and other resources…" Section 6 of the Standard Lease Form (BLM Form 3100-11, Appendix C) also allows the BLM to impose additional restrictions at the permitting phase, if the restrictions will prevent violation of law, policy or regulation, or avoid undue and unnecessary degradation of lands or resources. Resource protective measures for general wildlife that could be applied under this alternative include expanding the geographic area and the use of timing limitations for crucial winter mule deer, elk, and pronghorn habitat (Dec. 1-April 30) beyond that identified in the WSRA RMP and the HRRA RMP supplements, and specifying timing limitations for crucial elk calving, deer fawning habitat, and pronghorn fawning habitat (May 1-June 29) on which the WSRA RMP and

the HRRA RMP and the supplements are silent. Similar protective measure may be warranted and applied on a site-specific basis in rocky mountain bighorn sheep habitat. This alternative also would include adding lease notices for protection of raptors wherein surveys would be required whenever disturbances and/or occupancy is proposed in association with oil and gas exploration and development within potential raptor protection buffer areas. Appropriate buffers and timing limitations would be determined based on the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romin and Muck 2002). Specifically burrowing owls, northern goshawks, and peregrine falcons would need additional protection from surface disturbing activities than is allowed for under the No Action alternative. These measures would provide greater protection than is currently mandated by the WSRA RMP and the HRRA RMP supplements and would comply with the non-statutory regulation of the Migratory Bird Treaty Act and IM 2008-050.

Other resource protective measures that could be implemented as part of the Proposed Action alternative to protect general wildlife include a controlled surface use stipulation for riparian areas wherein no surface disturbance or use would be allowed within 500 feet of riparian areas unless it can be shown that the activity will not have an adverse impact on the watershed. Protection of the riparian habitat type – although limited within the analysis area – is important because it provides habitat for many different species of important wildlife and migratory birds. Fisheries would also be protected under this alternative through a controlled surface use restriction.

A notification of a potential timing limitation would be attached to leases under this alternative for the protection of waterfowl. Disruptive activities near surface waters with nesting waterfowl, wintering waterfowl, or during migration periods (from approximately March 15 through July 15 and/or November 1 through March 15) would likely cause negative impacts and would be discouraged. Specific stipulations would be determined on a site-specific basis. Specific measures for waterfowl protection were not included in the RMPs, and therefore this alternative would provide greater protection to waterfowl than the No Action alternative.

Sensitive Animal Species

Effects to BLM sensitive animal species under this alternative would be similar to those described for general wildlife under the No Action alternative. Protective measures, such as seasonal restrictions, would be included on leases where sensitive wildlife resources are known or suspected to occur within the analysis area and would result in fewer, or less intensive, impacts to sensitive animal species, fish species and migratory birds.

A controlled surface use limitation for Utah BLM-sensitive species would be attached to leases, in the form of a lease notice, containing BLM-sensitive species or their known habitats under this alternative. This notice would inform the lessee/operators that additional measures or mitigation may be required to protect and benefit these sensitive and important species. Surface disturbance or otherwise disruptive activities that would result in direct and indirect disturbance to populations or individuals would be avoided where practicable. Modifications to the SUPO may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, ESA, FLPMA, the Migratory Bird Treaty Act and 43 CFR 3101.1-2.

Notices that highlight the need for timing limitations and controlled surface use restrictions for greater sage-grouse would be attached to leases under the Proposed Action alternative and would emphasize the need for greater protection to sage-grouse strutting, nesting, brood-rearing habitats, and winter concentration areas. No surface disturbing or otherwise disruptive activity would be allowed from February 15 through August 1 within 2.0 miles of an occupied sage-grouse lek, or

in mapped and identified greater sage breeding habitat. No surface use or otherwise disruptive activity would be allowed from February 15 through June 1 which would disrupt sage-grouse breeding activities within 0.5 mile of an active lek. No surface disturbing or otherwise disruptive activity would be allowed from November 15 through March 1 in identified greater sage-grouse winter concentration areas. The lease notices addressing nesting, early brood rearing, winter habitats and leks, complies with the BLM's 6840 Manual for sensitive species which states that the conservation of special status species incorporates the use of all methods and procedures which are necessary to improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted. The lease notices are also follow the guidelines identified in BLM's National Sage-grouse Conservation Strategy (11/2004).

A notice of controlled surface use restriction for pygmy rabbits could be attached to leases under this alternative. No surface disturbing activity that would result in an aboveground facility or semi-permanent disturbance (e.g., roads, pipelines, reservoirs, etc.) would be allowed within 300 feet of pygmy rabbit habitat. Application of this buffer would reduce human presence and disturbance within suitable pygmy rabbit habitat and provide adequate protection for the species.

Under the Proposed Action alternative, management of raptors would be guided by the use of the BMPs identified in the *Best Management Practices for Raptors and Their Associated Habitats in Utah* (BLM 2006a). Eight of Utah's raptor species that currently receive enhanced protection, in addition to the regulatory authority provided by the Migratory Bird Treaty Act, would be managed under this directive and include the bald eagle, golden eagle, California condor, northern goshawk, ferruginous hawk, short-eared owl, and burrowing owl. Management of raptors under this alternative would provide greater protection to this resource than the No Action alternative, which would not implement the BMPs for raptor management.

A controlled surface use protection measure for fisheries and aquatics would be attached to leases under this alternative. Fish and fish habitat would be protected by a 500 foot buffer around live water sources. This conservation measure would provide a greater degree of protection to fisheries habitat and general fisheries, including important cooperative management species like the Bonneville cutthroat trout, than the No Action alternative.

Special status species that have a Conservation Agreement and Strategy (Conservation Agreement Species) will have an additional protective measure in the form of a lease notice. This protective measure ensures that the operator knows there is a Conservation Agreement species or habitat potentially on the lease and that they will be required to meet all of the special requirements outlined in the Conservation Agreement before any activity takes place within the habitat. Conservation Agreement species are also protected by the BLM's 6840 Manual for sensitive species which states that the conservation of special status species incorporates the use of all methods and procedures which are necessary to improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted. At this time, there are four Conservation Agreement species; Bonneville cutthroat trout, least chub, Columbia spotted frog, and northern goshawk. The Bonneville cutthroat trout, least chub, and Columbia spotted frog have the extra protection of the riparian area protective measure which restricts surface disturbing activity within 500 feet of the riparian area. This measure also protects wetlands and water quality which benefit these species. The raptor notice will be used for additional protection for the northern goshawk.

No Leasing Alternative

General Wildlife

Under this alternative no leasing would occur and thus impacts to wildlife would be less than those that would occur under the other alternatives. This alternative would provide additional protection to parcels that are found to have wildlife species or crucial habitats that encompass the entire parcel, making it impossible to site even one well without adversely impacting the species. This alternative could protect large blocks of habitat that are important to wildlife species and would be implemented if the BLM determined that the only way to adequately protect the wildlife resource was to not allow leasing in the area. The seasonal and surface use restrictions under the Proposed Action alternative are considered sufficient to protect general wildlife species and their habitats that may occur within the analysis area; therefore no leasing for an entire lease is not currently foreseen as a necessary condition for the protection of general wildlife species, particularly in light of the small amount of disturbance that would be projected to occur.

Sensitive Animal Species

Impact to BLM sensitive animal species would be similar to those described for general wildlife above. While this alternative would provide for protection of sensitive animal species, the seasonal and surface use restrictions under the Proposed Action alternative are considered sufficient to protect sensitive wildlife and their associated habitats that may occur within the analysis area, particularly in light of the small amount of disturbance that would be projected to occur. Therefore no leasing for an entire lease is not currently foreseen as a necessary condition for the protection of sensitive wildlife in the analysis area.

4.2.7 Vegetation including Special Status Plant Species other than FWS candidate or listed species

No Action Alternative

Oil and gas exploration and development could affect BLM Sensitive Species in a variety of direct and indirect ways including direct loss of habitat; disturbance and displacement of individuals or populations; habitat fragmentation; introduction of competitive or non-native organisms; and secondary effects and indirect habitat loss, including sedimentation or other loss of habitat functionality. All lease associated ground disturbing activities would require plant surveys to identify the presence or absence of special status plants to identify their presence or absence where drilling and associated activities would occur. If activities were proposed on areas that contained a population of BLM sensitive species, the standard lease stipulation of relocation of proposed facilities up to 200 meters should be sufficient to protect the plant population, due to the sparse occurrence of BLM sensitive species. Plant populations that are too large for the 200 meter relocation to be sufficient will not be protected under the No Action Alternative.

Proposed Action Alternative

The impacts of the Proposed Action Alternative would be similar to those under the No Action Alternative. However, in cases where the plant population is too large for the 200 meter relocation to be sufficient will require lease notices in order to avoid larger or denser plant populations. There are two lease notices in place that address special status plant species, FFO-LN-29 Special Status Species, and FFO-LN-32 Special Status Plants: Not Federally Listed. Large, dense stands of Neese narrowleaf penstemon occur within the analysis area and an additional lease notice to protect this rare plant may be necessary. Therefore, oil and gas leasing under the Proposed Action would not negatively impact special status species.

No Leasing Alternative

Implementation of the No Leasing alternative would provide additional protection for parcels where BLM sensitive species or their habitat occurs. If this situation arose it would require more protection than the timing restrictions, controlled surface use, and no surface occupancy presented in the Proposed Action alternative and therefore this alternative would be implemented to protect those resources from effects of exploration and development. Because no surface leasing would occur, BLM sensitive species in the FFO would be protected.

4.2.8 Invasive, Non-Native Species

No Action Alternative

Soil disturbing activities such as oil and gas exploration and development could result in the spread of non-native, invasive plant species and noxious weeds. Current practices to manage and control noxious and invasive species throughout the analysis area would continue as authorized under the 1996 *Noxious Weed Control EA* and the 2007 *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (BLM 2007a). Cooperative agreements with local county and other agencies are also in place to help control further spread and infestation of noxious weeds within the analysis area. Furthermore, BMPs described in the Gold Book (BLM 2007b) would be implemented at all well sites to control the spread of invasive and non-native species. Successful management and control would be accomplished by treating areas where invasive species can become established – such as disturbed areas along roadways, on the margins of well pads, and adjacent to other facilities. Common conditions of approval include cleaning and sanitization of field equipment and vehicles brought in from other regions to prevent importation of noxious weeds and other non-native species including aquatic invasive species.

Reclamation actions described in the vegetation section would further reduce the potential for introduction and/or spread of invasive plant species. Therefore, although soil-disturbing activities likely will occur under the No Action alternative, practices that are already in place, along with mitigations that would be required as part of any APD, would limit the potential for establishment or spread of invasive, non-native species.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be the same as those discussed under the No Action alternative; no specific additional protective measure is proposed to address invasive, non-native species. The operator would be required to implement standard BMPs and other measures deemed reasonable for the control of non-native or invasive species as addressed in the Gold Book (BLM 2007b) and other approved management plans. As a result, the effects would be similar to those described for the No Action alternative but the location of disturbances may vary because wells and associated facilities may be relocated to avoid impacts to a particular resource. Lease notices for controlled surface use would be applied to areas where there are erodible soils or steep slopes. These mitigations would indirectly benefit vegetation resources when compared to the No Action alternative by decreasing the risk of erosion and increasing the potential for success of rehabilitation of disturbed areas, therein reducing the potential for the spread of invasive species.

In addition, if NSO were applied under this alternative it would provide further resource protection on BLM lands. This stipulation would preclude establishment of wells or well pads or construction of roads, pipelines, or power lines on BLM land. Any fluid minerals extracted from the leases would have to come from wells directionally drilled at an angle underground from adjacent or nearby lands. Because no surface disturbance would occur within a given lease parcel

under NSO, the indirect impacts from introducing invasive, non-native species under this alternative would be less than those that would occur under the No Action alternative. The operator would be required to implement standard BMPs associated with rehabilitation of disturbed areas as addressed in the Gold Book (BLM 2007b) and other approved management plans for directional drilling from adjacent lands to control the spread of invasive, non-native species.

No Leasing Alternative

Under this alternative, the BLM would prohibit leasing for an entire parcel and thus would not permit any development or disturbance of the land surface. Because no surface disturbance would occur, the impacts from introducing invasive, non-native species would be less than those that would occur under the other alternatives. In light of the small amount of disturbance that would occur over the analysis area and protective measures implemented under the Proposed Action alternative, application of no leasing is not deemed necessary to address invasive species establishment or spread.

4.2.9 Water Quality

No Action Alternative

Soil disturbing activities such as oil and gas exploration and development could result in degradation of water quality because of increased sedimentation and the like. The supplement to the HRRA RMP requires that no surface disturbance or use would be allowed within 500 feet of riparian areas (BLM 1988a, p.4) unless it can be shown that the activity will not have an adverse impact of the watershed. The Utah Riparian Management Policy states that no new surface disturbing activities are allowed within 100 meters of riparian areas unless it can be shown that (A) there are not practical alternatives, (B) all long term impacts can be fully mitigated, or (C) the activity will benefit and enhance the riparian area. The supplement to the HRRA RMP and the Riparian Policy would be used toprotect water quality. The BLM may require modification to exploration proposals at the APD stage to protect water quality and water resources near wells, small reservoirs, and streams or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated. Casing and cementing operations for any drilling operation will be in accordance with the provisions of the operating regulations at 43 CFR 3162.5-2(d) and Onshore Oil and Gas Order No. 2, which requires the protection and isolation of any subsurface occurrences of usable quality water.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be similar to those discussed under the No Action alternative; however, an additional protective measure is proposed to address riparian areas for parts of the analysis area that are not protected by the HRRA RMP supplemental stipulation. For areas that have riparian areas, a lease notice would be attached to any new leases that prohibit surface activities within 500 feet of riparian areas. As a result, water quality would indirectly be better protected under this alternative. There are several large riparian areas that where the 200 meter/60 day rule does not adequately protect the water quality. It is necessary to have a lease notice attached to any new leases that restrict surface activities to meet the water quality requirements. Examples of large riparian areas in the FFO include the Gandy Salt Marsh/Bishop Springs/Twin Springs Area; the Sevier River Complex which includes Swan Lake, Crafts Lake, and the surrounding riparian zones; and the south tract riparian areas south of Delta and Oasis. The operator would be required to implement standard BMPs and other measures deemed reasonable for the protection of riparian areas as addressed in the Gold Book (BLM 2007b) and other approved management plans. As a result, the effects would be similar to those described for the No Action alternative but the location of disturbances may vary because

wells and associated facilities may be relocated to avoid impacts to riparian zones. In the analysis area, lease notices would require no surface disturbance or use within 500 feet of riparian. The BLM may require modification to exploration or development proposals to protect water quality and water resources near culinary water source protection zones, wells, springs, streams, and small reservoirs, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.

Reservoirs could raise the ground water levels within a surrounding drainage. Ground water levels at reservoir could impact the allocation of water uses in accordance with water rights, native and desirable riparian and terrestrial vegetation, and/or wildlife.

No Leasing Alternative

Under this alternative the BLM would prohibit leasing for an entire parcel and thus would not permit any development or disturbance of the land surface. In light of the small amount of disturbance that would occur over the analysis area and protective measures implemented under the Proposed Action alternative, application of no leasing is not deemed necessary to address water quality.

4.2.10 Wetlands/Riparian Zones

No Action Alternative

Soil disturbing activities associated with oil and gas exploration and development could result in damage to wetlands and riparian zones. The supplement to the HRRA RMP requires that no surface disturbance or use would be allowed within 500 feet of riparian areas (BLM 1988a, p.4) unless it can be shown that the activity will not have an adverse impact of the watershed. The Utah Riparian Management Policy states that no new surface disturbing activities are allowed within 100 meters of riparian areas unless it can be shown that (A) there are not practical alternatives, (B) all long term impacts can be fully mitigated, or (C) the activity will benefit and enhance the riparian area. This would be applied to the entire analysis area, although it is less restrictive than the existing HRRA RMP supplement. Under this alternative, no additional protection would be provided.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be the similar as those discussed under the No Action alternative; however, an additional protective measure is proposed to address wetland and riparian zones for areas that are not protected by the HRRA RMP supplemental stipulation. For areas that have wetlands or riparian areas, a lease notice would be attached to any new leases that prohibit surface activities within 500 feet of riparian areas. As a result, riparian and wetland areas would be better protected under this alternative. There are several large riparian areas that the 200 meter/60-day rule does not adequately protect. It is necessary to have a lease notice attached to any new leases that require restrictions to surface activities to meet the riparian requirements. These areas include the Gandy Salt Marsh/Bishop Springs/Twin Springs Area; the Sevier River Complex which includes Swan Lake, Crafts Lake, and the surrounding riparian zones; and the south tract riparian areas south of Delta and Oasis. The operator would be required to implement standard BMPs and other measures deemed reasonable for the protection of riparian areas as addressed in the Gold Book (BLM 2007b) and other approved management plans. As a result, the effects would be similar to those described for the No Action alternative but the location of disturbances may vary because wells and associated facilities may be relocated to avoid impacts to riparian zones.

No Leasing Alternative

Under this alternative the BLM would prohibit leasing for an entire parcel and thus would not permit any development or disturbance of the land surface. In light of the small amount of disturbance that would occur over the analysis area and protective measures implemented under the Proposed Action alternative, application of no leasing is not deemed necessary to address wetlands and riparian zones.

4.2.11 Wilderness/WSA's

No Action Alternative

BLM is required to maintain wilderness character in WSAs until a final determination is made by Congress to include the WSAs in the National Wilderness Preservation System, or releases these areas from further wilderness study. In accordance with IMP (H-8550-1) and leasing regulations (43 CFR 3100 (2) (viii), wilderness study areas are closed to fluid mineral leasing.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be the same as those discussed under the No Action alternative; no specific additional protective measure is proposed to WSAs. As a result, the effects would be similar to those described for the No Action. Wilderness character is required to be maintained until a final determination is made by Congress for inclusion in the National Wilderness Preservation System or are released from further wilderness study. No new oil and gas leases are allowed on these lands.

No Leasing Alternative

Under this alternative no development or disturbance of the land surface would be permitted associated with a parcel. Thus greater protection to WSAs would be provided than under the Proposed Action or No Action alternatives.

4.2.12 Rangeland Health Standards and Guidelines

No Action Alternative

Soil disturbing activities such as oil and gas exploration and development could result in changes to the proper functioning condition required to meet guidelines for grazing management according to the *Standards for Rangeland Health and Guidelines for Grazing Management* (BLM 1997). Surface disturbance of riparian areas may cause riparian areas to either not function or function at risk. Guidelines in the *Utah Riparian Management Policy* must be followed to ensure proper functioning conditions are maintained in riparian areas.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be the same as those discussed under the No Action alternative; no specific additional protective measure is proposed to address Rangeland Health Standards and Guidelines. As a result, the effects would be similar to those described for the No Action Alternative.

In addition, if NSO were applied under this alternative it would provide further resource protection on BLM lands. This stipulation would preclude establishment of wells or well pads or construction of roads, pipelines, or power lines on BLM land. Any fluid minerals extracted from the leases would have to come from wells directionally drilled at an angle underground from adjacent or nearby private lands. Because surface disturbance within a given lease parcel under NSO, the indirect impacts to Rangeland Health Standards under this alternative would be less than those that would occur under the No Action alternative.

No Leasing Alternative

Under this alternative the BLM would prohibit leasing for an entire parcel and thus would not permit any development or disturbance of the land surface. In light of the small amount of disturbance that would occur over the analysis area and protective measures implemented under the Proposed Action alternative, application of no leasing is not deemed necessary to address Rangeland Health Standards.

4.2.13 Livestock Grazing

No Action Alternative

Soil disturbing activities such as oil and gas exploration and development could result in changes to livestock grazing opportunities. Any management facilities would need to be either avoided or returned to functioning condition following disruption. The *Standards for Rangeland Health and Guidelines for Grazing Management* (BLM 1997) and the *Utah Riparian Management Policy* would need to be followed to ensure continuation of livestock grazing.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be the same as those discussed under the No Action alternative; no specific additional protective measure is proposed to address livestock grazing. As a result, the effects would be similar to those described for the No Action.

In addition, if NSO were applied under this alternative it would provide further resource protection on BLM lands. This stipulation would preclude establishment of wells or well pads or construction of roads, pipelines, or power lines on BLM land. Any fluid minerals extracted from the leases would have to come from wells directionally drilled at an angle underground from adjacent or nearby private lands.

No Leasing Alternative

Under this alternative the BLM would prohibit leasing for an entire parcel and thus would not permit any development or disturbance of the land surface. In light of the small amount of disturbance that would occur over the analysis area and protective measures implemented under the Proposed Action alternative, application of no leasing is not deemed necessary to address livestock grazing.

4.2.14 Visual Resources

No Action Alternative

Construction and drilling activities could result in visual impacts under this alternative. New well pads, facilities, and roads would increase visual contrasts created by construction activities within the analysis area. These impacts would consist of an increase in vertical and horizontal shapes and lines to the existing landscape. Texture and color of the existing landscape would be impacted by drilling facilities and structures such as storage tanks, pipelines and drill rigs. Contrasts in the majority of the analysis area would be minimal, as most of the analysis area allows a high level of change to the natural landscape (VRM Class IV). Without mitigative measures, visual contrasts would be greater in Class III areas. In these areas it is allowable for moderate changes to the natural landscape. Long-term landscape contrasts such as from well pad facilities, roads, etc. yield a more developed visual setting. The contrast in Class II areas would be even greater than those in Class III areas. Class II are managed to retain the existing character of the landscape, with a low level of landscape change. In these areas, mitigations may be needed to be in conformance with VRM management objectives. The introduction of long-term visual

modifications that create contrast would reduce visual harmony within the overall landscape. The WSRA RMP/FEIS and the HRRA RMP/ROD identified some of the lands in the analysis area as available for leasing with special stipulations for protections of visual resources; this would provide some protection but it does not include all of the Class II areas. Currently WSAs are identified in the existing Fillmore land use plans as VRM II. Under WO IM 2000-096 and Utah IM 2001-032, Use of Visual Resource Management (VRM) Class I Designation in Wilderness Study Areas, direction has been provided that under future land use planning efforts, new and existing WSAs will be designated as VRM Class I. The Fillmore Field Office is not undertaking a land use plan revision at this time and will not be designating the WSAs as VRM Class I because this would involve land use plan amendments.

Proposed Action Alternative

Impacts to visual resources from implementation of the Proposed Action alternative would be similar to those described for the No Action alternative but the locations of disturbance may be different due to implementation under this alternative of protective measures for wildlife and other resources. In addition a controlled surface use measure would be attached to leases under this alternative for the protection of VRM Class II areas. This would allow only short-term or mitigable visual intrusions on VRM Class II lands for the purpose of preserving the form, line, color or texture of the landscape so as not to attract the viewer's attention. Mitigation measures would be in conformance with the Class III objectives. Furthermore, Class IV objectives would not be an issue under this alternative; however, general BMPs would still be utilized where possible. As a result, this alternative would result in fewer potential impacts to visual resources within the analysis area than the No Action alternative.

NSO could also be applied under this alternative for protection of other resources, prohibiting any development or disturbance of the land surface associated with a parcel. Any oil or gas extracted from the leases would have to come from wells directionally drilled from adjacent or nearby private or public lands. This alternative would indirectly result in greater protection to visual resources than the No Action alternative and would ensure VRM objectives are met in Class II areas.

No Leasing Alternative

Under this alternative no development or disturbance of the land surface would be permitted associated with a parcel. Thus greater protection to visual resources would be provided than under the Proposed Action or No Action alternatives. If application of the protective measures under the Proposed Action alternative did not provide adequate protection then no leasing could be applied to ensure VRM objectives are met for all VRM Classes.

4.2.15 Recreation

No Action Alternative

Under this alternative activities related to the exploration and development of the proposed leases for mineral extraction could result in some impacts with recreation uses in the analysis area. Potential conflicts could develop between lease holders and recreationists utilizing the same roads and vehicle routes to access parcels and recreational destination areas. In some situations movement of heavy equipment and other large vehicles could cause impacts to vehicle routes which are not constructed for such intense use thus limiting recreational access or if the routes are improved for heavy equipment passage can benefit recreational access. Some parcels may include previously established camp sites used for hunting and/or staging sites for OHV uses which could require recreationalists to locate elsewhere. In general most areas in the field office can be accessed using a variety of routes.

The Tintic/Sheeprock OHV area has been utilized as a site for competitive events requiring special recreation permits. Exploration and development of fluid mineral resources in this area can result in the rerouting of segments of existing race courses to avoid fluid mineral exploration and development. The Deep Creek Mountains in the northwest corner of the analysis area is known for mule deer hunting and camping, access to the mountain range is along a single north/south road. Currently, this is an all weather road that could handle an increase in vehicle traffic.

The Yuba Lake SRMA receives extensive recreational use during the summer recreation seasons that has resulted in a combined effort by BLM and the Utah State Parks Division at Yuba Lake State Park to expand recreational facilities along the western and northern shores of Yuba Lake to provide for recreational needs. Expanded facilities include campsites, docks and restrooms with culinary water systems. The exploration and development of fluid mineral resources in the vicinity of Yuba Lake could result in possible contamination of culinary water resources from spills or leaks in drilling apparatus and machinery. However, in the past there have been numerous leases authorized in the vicinity of Yuba Lake that have not resulted in contamination of the water aquifer. With the current advances in mineral extraction technology and Best Management Practices the potential for contamination of the culinary water resources is considered to be minimal.

People may discharge firearms from and at an existing oil and gas facility or equipment. Hunting opportunities would be limited at these locations due to the State of Utah Code 76-10-508 which prohibits discharging weapons within 600 feet of a dwelling/facility.

Proposed Action Alternative

Under this alternative, impacts to recreation would be similar to the No Action alternative. Additional resource protective measures would provide minimal relief to impacts to recreation in that these measures would not alleviate potential impacts from traffic on roads that both the lessee and recreationalist would use to access leased parcels and recreation destination sites/areas. As in the No Action alternative, impacts to recreation would not be substantial.

No Leasing Alternative

Under this alternative, there would be no impacts to recreation from the proposed action because leasing the parcels would not be authorized. Potential impacts from leasing traffic and recreational traffic would not occur.

4.2.16 Geology and Mineral Resources

No Action Alternative

Oil and gas exploration and development could result in changes and depletion of mineral resources if exploration resulted in production. However, exploration alone would have no effect on geology and mineral resources.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be the same as those discussed under the No Action alternative; no specific additional protective measure is proposed to address geology and mineral resources. As a result, the effects would be similar to those described for the No Action. If oil or gas production occurred as a result of exploration, it would result in a permanent removal of those resources. The RFD only anticipates development of one exploration well every two years over a ten year period, removal of oil or gas is not anticipated.

No Leasing Alternative

Under this alternative no development or disturbance of the land surface would be permitted. Thus, no mineral resources would be extracted. Thus greater protection to geology and mineral resources would be provided than under the Proposed Action or No Action alternatives.

4.2.17 Lands/Access

No Action Alternative

Soil disturbing activities such as oil and gas exploration and development could result in changes to access to public lands. All leases would be subject to valid existing right-of-ways (ROW). Existing roads and trails would be used unless otherwise authorized. Any ruts deeper than four inches resulting from wet road conditions would be repaired at the Authorized Officer's discretion. Site specific mitigation at the APD stage would ensure that all existing ROWs, including, but not limited to communication sites, water projects, and power lines would be avoided, restored or replaced. Any parcels leased under the Utah Test and Training Range airspace would require coordination with the US Air Force as per Lease Notice UT-LN-79. All leases would be subject to existing designated corridors and the applicable terms associated with each corridor.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be the same as those discussed under the No Action alternative; no specific additional protective measure is proposed to address public lands and access. As a result, the effects would be similar to those described for the No Action. All leases would be subject to valid existing ROWs. Existing roads and trails would be used unless otherwise authorized. Any ruts deeper than four inches resulting from wet road conditions would be repaired at the Authorized Officer's discretion. Site specific mitigation at the APD stage would ensure that all existing ROWs, including, but not limited to, communication sites, water projects, and power lines would be avoided, restored or replaced. Any parcels leased under the Utah Test and Training Range airspace would require coordination with the US Air Force as per Lease Notice UT-LN-79.

There are approximately 41,081 acres of Pittman-Robertson Lands within the FFO that are managed as State Wildlife Reserves/Management Areas by the UDWR. These lands are considered coordination lands and as such the BLM must coordinate with the UDWR and FWS prior to leasing any such lands. Coordination activities with the FWS and UDWR for leasing on Pittman-Roberson lands must be conducted on a case-by-case basis on each lease sale.

No Leasing Alternative

Under this alternative no development or disturbance of the land surface would be permitted associated with a parcel. Thus greater protection to lands and access would be provided than under the Proposed Action or No Action alternatives.

4.2.18 Wilderness Characteristics

This analysis is only applicable to those citizen proposed areas that have been inventoried and/or reviewed by the BLM in the 1999 wilderness inventory and the 2008 wilderness character review. There are several citizen proposed areas that have not been reviewed at this time and are not included in this analysis.

No Action Alternative

Soil disturbing activities such as oil and gas exploration and development could result in changes to lands with wilderness characteristics, including loss of natural appearance over a moderate length of time before restoration and natural reclamation would return impacted areas to a natural appearance, and reduced opportunity for solitude or primitive recreation for a short term basis generally covering those times where drilling activity is occurring. Depending upon where in the parcel a drill pad, improved access and other supporting facilities are located, exploration and development activities can reduce the size of wilderness character units by isolating acreage. Should an area be bisected or isolated from the main unit, this can result in the isolated portion being excluded from potential wilderness management because in some cases areas smaller than 5,000 acres in size are not practicable to manage for wilderness character. There are 198,224 acres of land determined to have wilderness characteristics within the analysis area (Tables 8 and 9). Where inventoried areas have been determined not to have wilderness character through an intensive field inventory or wilderness character review, BLM's analysis concludes that surface disturbing activities would be permitted. Since the RFD only anticipates development of one well every year over a ten year period with a total land disturbance of 60 acres, the impact to lands with wilderness characteristics is anticipated to be small.

Proposed Action Alternative

Under the Proposed Action alternative, the management practices would be the same as those discussed under the No Action alternative; no specific additional protective measure is proposed to land with wilderness characteristics. As a result, the effects would be similar to those described for the No Action.

In addition, if NSO were applied under this alternative it would provide further resource protection on lands with wilderness characteristics. This stipulation would preclude establishment of wells or well pads or construction of roads, pipelines, or power lines on lands with wilderness characteristics. Any fluid minerals extracted from the leases would have to come from wells directionally drilled at an angle underground from adjacent or nearby private or public lands. This alternative would indirectly result in greater protection to lands with wilderness characteristics than the No Action Alternative.

No Leasing Alternative

Under this alternative no development or disturbance of the land surface would be permitted associated with a parcel. Thus greater protection to lands with wilderness characteristics would be provided than under the Proposed Action or No Action alternatives.

4.3 Cumulative Impacts Analysis

Based on a continuation of drilling exploration wells within the Fillmore Field Office – an analysis area consisting of about 5 million acres of BLM surface-managed land – at the rate of about one well every year and assuming that the success rate for finding commercial quantities would be low based on past exploration and development, it is anticipated that a total of 60 acres of surface disturbance would occur over 10 years from oil and gas activities. The minimal amount of disturbance associated with the expected level of development in the analysis area, in combination with Gold Book standard operating practices, BMPs, and additional measures that would minimize development impacts, would result in a negligible cumulative impact on the resources within the analysis area. Given the low amount of disturbance anticipated with the RFD (60 acres out of 5 million acres), it is anticipated that the impacts would be isolated and localized. Impacts would be mitigated through the application of lease notices and stipulations.

4.4 Irreversible or Irretrievable Commitments of Resources

Both short- and long-term effects could result from the activities analyzed in this EA. Short-term effects would occur for the duration of oil and gas exploration and production activities, whereas long-term refers to an indefinite period beyond the termination of oil and gas production. Most of the effects discussed in Chapter 4 are considered to be short-term because the main effects would occur during the construction and exploration phases and would be reduced through BMPs and mitigation measures. Irreversible commitments are those that cannot be reversed, except in the extreme long-term, and irretrievable commitments are those that are lost for a period of time. Leasing and subsequent development and extraction of hydrocarbons as a result of the proposed actions could represent an irreversible and irretrievable commitment of nonrenewable oil and gas resources. Under the Proposed Action alternative, additional conservation measures (Table 1) would be attached as lease notices where applicable and energy requirements may be improved by the project.

5 CONSULTATION/COORDINATION

This chapter lists individual resource specialists within the BLM who participated in the preparation of this EA as well as other individuals/agencies/Tribes who contributed to this EA or who were contacted during its development. The issues analyzed in detail in Chapters 3 and 4 were produced through input from those identified below.

5.1 Agency and Tribal Consultation

Utah SHPO Consultation

The BLM has determined that leasing parcels is an undertaking as defined in 36 CFR 800.16(y). According to Part VII.A.B (1) of the Utah Protocol, the BLM can request the review of the Utah State Historic Preservation Office (SHPO) prior to project implementation. Consultation with the Utah SHPO will be initiated after comments are received from our Native American contacts. BLM consultation with Utah SHPO is ongoing and would be completed prior to the parcels being offered for lease. Compliance with Section 106 responsibilities of the National Historic Preservation Act (NHPA) of 1966, Public Law 89-665 as amended in 1992, were adhered to by following the 2001 Protocol Agreement between the Utah BLM and the Utah State Historic Preservation Office (SHPO), and other applicable BLM handbooks. As identified in Appendix H the SHPO and BLM will continue to consult on leasing actions on specific parcels.

United States Fish and Wildlife Service

BLM reviewed the proposed action and determined it would be in compliance with threatened and endangered (T&E) species management guidelines outlined in the August 2006 *Conservation Measures from Land Use Plan-level Consultations for T&E Species of Utah*. Consultation with the U.S. Fish and Wildlife Service (FWS) over leasing with species-specific T&E lease notices has been completed and concurrence has been reached that leasing with the appropriate lease notices attached would result in a "not likely to adversely affect" determination for T&E species (December 16, 2004). Because this programmatic Section 7 Consultation is current, no further Endangered Species Act (ESA) consultation with the FWS is required at this stage. A California condor (*Gymnogyps californianus*) consultation was completed for oil and gas leasing and was determined "not likely to be adversely affected." Consultation was completed for the Utah prairie-dog. Conferencing for the yellow-billed cuckoo (*Coccyzus americanus*) is underway for a more specific lease notice for the species that may be added to parcels on subsequent lease sales when needed.

Tribal Consultation

The following agencies and Tribes were consulted in the development of this analysis: the Paiute Tribe of Utah (PITU), Confederated Tribes of the Goshute Reservation, Kanosh Band of the Paiute Tribe, Skull Valley Goshute Tribe, and the Ute Tribe. A copy of the Native American Consultation Letter is contained in Appendix E. All future leases would include similar notification processes.

A letter received on October 17, 2008 from Ed Naranjo, Tribal Administrator notes that the Confederated Tribes of the Goshute Reservation has concerns in particular areas that were offered in August 2007 as parcels UT-08-92 to UT-08-94, that have not been formally inventoried for cultural/traditional/spiritual resources. The Goshutes also expressed concern at areas in the southern end of the Goshute Reservation, within and adjacent to the Deep Creek Mountain Range where the surface in Tribal land and the subsurface is federal minerals.

The following concerns have been identified by Ed Naranjo with the Confederated Tribes of the Goshute Reservation:

- The tribe has a Conservation Agreement to help preserve Bonneville Cutthroat Trout populations in the waters of the Deep Creek Mountains that might be impacted by well placement;
- The southern portion of the reservation contains areas that have been trespassed upon and illegally grazed by cattle. The tribe is actively mitigating the damage by installing fences and working towards re-establishing native vegetation. The tribe expressed concerns that their effort could be impacted by development in the area;
- A portion of the tribe's revenue comes from guided big game hunting and any development in the area could have an adverse impact.

Further analysis of the concerns expressed by the Confederated Tribes of the Goshute Reservation is required before a determination of effect can be made for parcels 044, 045, and 046.

Consultation with the Kanosh Band of the Paiute Tribe identified concerns with leasing parcel 023. Parcel 023 is 366 acres and is located directly adjacent to the south border of Kanosh Indian Village and west of the tribal cemetery. The cemetery is located at a higher elevation than the parcel and the entirety of the parcel is visible from this vantage point. Chairperson Pikyavit expressed concerns regarding the proposed lease offering of parcel 023 due to the close proximity to both the tribal village and cemetery. Chairperson Pikyavit asked that both entities be evaluated as Traditional Cultural Properties (TCPs) for the purposes of this proposed action.

The tribes did not provide input on the programmatic portion of this analysis. Future lease offerings will require tribal consultation on a site specific basis.

5.2 Public Involvement

In order to meet the intent of the CEQ regulations that require an "early and open process for determining the scope of issues to be addressed and for identifying significant issues related to a Proposed Action" (40 CFR 1501.7) several actions were taken to involve the public.

The proposal was posted and maintained on the Utah BLM Environmental Notification Bulletin Board (ENBB) (http://www.blm.gov/ut/st/en/info/nepa/enbb.html). A 15-day scoping period was conducted beginning Sept. 2, 2008. Scoping comments were received from Southern Utah Wilderness Alliance.

BLM opened a 30 day comment period on the EA which ended December 4, 2008. The EA was made available to the public on Utah BLM's website. During this period 4 letters were received and are contained in Appendix I. In response to the interest expressed by the general public on oil and gas leasing, the BLM is also opening a second comment period on this EA for a 15 day review period prior to the March 2009 lease sale. All the information related to this environmental assessment is maintained on the identified website.

5.3 List of Preparers

The following BLM and non-BLM personnel participated in this analysis.

Name	Title
Bureau of Land Management, Utah State Office	
Terry Catlin	Energy Team Lead
Julie Howard	Archaeologist
Al McKee	Petroleum Engineer
Mike McKinley	Environmental Scientist
Dave Mermejo	NRS, Special Designations
Robin Naeve	Wildlife Biologist
Jim Fouts	Geologist, RFD Analysis
Greg Thayn	Environmental Coordinator
Pam Schuller	Environmental Coordinator
Bureau of Land Management, Fillmore Field Office	
Steve Bonar	Outdoor Recreation Planner
Paul Caso	Rangeland Management Specialist
Jerry Mansfield	Geologist
Joelle McCarthy	Archaeologist
Bill Thompson	Rangeland Management Specialist
Matt Rajala	Natural Resource Specialist
Clara Stevens	Realty Specialist
David Whitaker	Rangeland Management Specialist
Non-BLM Preparers (Ecosystem Management, Inc.)	
Nina Harris	Archaeologist
Mike Tremble	Environmental Scientist, Consultant Project Lead
Jill Wick	Biologist
Kate Wright	Archaeologist
Stephanie Lee	Biologist, GIS Technician

5.4 Modifications Based on Public Comment and Internal Review

The BLM received 4 letters from the public during the comment period. Letters from the State of Utah, Public Lands Policy Coordination (State Parks & UDWR); National Parks Service, National Trails intermountain Region; Confederated Tribes of the Goshute Reservation; and the Theodore Roosevelt Conservation Partnership are contained in Appendix H. The public and internal review identified necessary corrections or clarifications to this EA. These modifications include:

1. Corrections to grammar, sentence structure, and formatting where made throughout the EA to add clarity to the discussions. In general, these changes were made without further clarification. Examples include: updates to the Table of Contents, addition of new appendices, corrections to figure, table or page numbers and moving some paragraphs before or after a figure.
2. In Section 1, the analysis area acreage was identified as Millard and Juab counties consisting of approximately 5 million acres, including split mineral estate. This was a change from 4.7 million acres. The scope of this EA includes a programmatic analysis of oil and gas leasing within FFO. It also sets the stage for leasing parcels on the March 2009 oil and gas lease sale.
3. The term analysis area replaced "project area" or "planning area" throughout the EA to avoid misunderstandings related to a project or planning effort.
4. Figure 1, map of the analysis area was changed illustrate land ownership properly and identify the RMP areas.
5. The Purpose and Need, Section 1.1 was updated to examples of available information that has triggered a new analysis of oil and gas leasing in the FFO. To provide additional background information available to the public, a website reference to Utah BLM's leasing program procedures was included.
6. Conformance with Land Use Plans, Section 1.2 was revised to distinguish the roles between the RMPs verses the Proposed RMP/Final EIS and the Implementation EAs and DRs for oil and gas leasing.
7. Relationship to Other Plans, Section 1.3 was updated to discuss and incorporate other documents used to describe the existing environment and make informed decisions on oil and gas leasing.
8. A footnote was added to Figure 2 to explain where Category 1 mineral leasing areas are located in FFO.
9. Section 2.2 was updated to provide additional discussion regarding leasing restrictions within Wilderness Study Areas.
10. The role of conservation measures identified in Section 2.3 in the development of Lease Notices was further discussed. Conservation measures in Table 2 were updated and linked to the Lease Notices identified in Appendix B.
11. The Floodplain discussion in Section 3.2.4 was updated including a reference to Figure 10.
12. Consultation updates for the California condor and Canada lynx were discussed further in Section 3.2.5.
13. UDWR habitat delineations are periodically updated. These updates are addressed in Section 3.2.6 for big game ranges. Life history discussions were provided for the pygmy rabbit, Peregrine falcon, burrowing owl, northern goshawk, Bonneville cutthroat trout, least chub, and Columbia spotted frog.
14. Section 3.2.11 was updated to include Onshore Oil and Gas Leasing Reform Act and BLM's leasing regulation references where included to define management within WSAs.
15. Recreation use within the FFO was updated to include discussions regarding Little Sahara Recreation Area, Yuba Reservoir, hunting and facility expansion/upgrades in Section 3.2.15.
16. Land management discussions are elaborated to include property managed by the State under the provisions of the Pittman-Robertson Wildlife Restoration Act.
17. Concerns were expressed over the adequacy of the RFD discussion contained in the analysis assumptions, Section 4.1. As noted in the EA, previous exploration and drilling has not been extensive. This is due in part to a low potential for oil and gas discovery and field development. The opportunity may increase within the extreme eastern portion

of the FFO. The RFD projects that each well pad could disturb about one acre and that access road construction could disturb about 5 acres. This RFD would total 6 acres for each well site. Actual disturbance would vary depending on topography, remoteness, well depth, drilling duration, completion techniques and other factors. Nothing would suggest that inordinately large pads for lengthy access roads would be required for new wells in the FFO. A new subsection for the March 2009 Oil & Gas Lease Sale was added to introduce Appendices J and K which contain a report and maps.

18. Potential impacts of the alternatives on ACEC relevant and important values were added to Section 4.2.1.
19. The summary of specific tribal concerns from the Confederated Tribes of the Goshute Reservation and the Kanosh Band of the Paiute Tribe, were moved from Section 4.2.3 to Section 5.1. This location was more appropriate to summarize tribal concerns expressed to the BLM.
20. Potential impacts of the alternatives on floodplains were added to Section 4.2.4.
21. RFD calculations were incorporated into Section 4.2.5 for the Utah Prairie Dog.
22. Section 4.2.6 now incorporates additional discussion on exploration/drilling timing restrictions within crucial mule deer winter range as described in the No Action Alternative. The Proposed Action identifies the need for additional protection for the burrowing owl, northern goshawk, peregrine falcon, waterfowl, sage grouse, and Conservation Agreement species. This section also identifies the maximum percentage of wildlife habitats affected by the RFD.
23. Lease notices for special status plant species were identified in Section 4.2.7.
24. Impacts to water quality from casting and cementing operations, additional protective measures and the 200 meter/60 day rule were addressed in Section 4.2.9.
25. The Proposed Action Alternative discussion elaborates on the 200 meter/60 day rule and surface activities within 500 feet of riparian areas in Section 4.2.10.
26. Recreation impacts incorporate information obtained from the State of Utah throughout Section 4.2.15.
27. Management and coordination of Pittman-Robertson lands was added to the Proposed Action alternative in Section 4.2.17.
28. Impacts of the No Action Alternative on lands with wilderness characteristics was expanded in Section 4.2.18.
29. Section 5.1, Agency and Tribal Consultation, was updated to include the final discussion of consultation with Native American Tribes, State Historic Preservation Officer (SHPO), Utah Division of Wildlife Resources, and US Fish and Wildlife Service. As appropriate, discussions that were included in other sections of the EA were moved to this location.
30. Section 5.2, Public Involvement, was updated to incorporate a summary of the EA public comment period.
31. Section 5.4, Response to Public Comments, was added to Chapter 5 to summarize the seven letters from interested publics and agencies received during the public comment period on the EA.
32. The project description was deleted from the ID team analysis record checklist for the FFO in Appendix A. That information was redundant to that contained in Chapter 2 of the EA.
33. Appendix B was updated to include new lease notices for floodplains, migratory birds, conservation species, VRM II and III, historic trails and properties, noxious weeds, Military Operating Area of the UTTR, and drinking water protection zone.
34. Appendix H was added to provide a copy of the SHPO correspondence.
35. Appendix I was added to provide copies of the 4 comment letters received by the BLM.
36. Appendix J was added to provide a summary of applicable lease notices for parcels nominated on the March 2009 lease sale within FFO.

37. Appendix K was added to illustrate the parcel locations for the March 2009 lease sale within FFO.

References

38 FR 14678. 1973. Conservation of Endangered Species and Other Fish and Wildlife. Amendments to Lists of Endangered Fish and Wildlife. Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service. June 4, 1973. Federal Register 38 (106):14678.

49 FR 22330. Endangered and Threatened Wildlife and Plants; Final Rule To Reclassify the Utah Prairie Dog as Threatened, With Special Rule To Allow Regulated Taking. FWS. May 29, 1984. Federal Register 49 (104):22330-22334.

66 FR 38611. 2001. Endangered and Threatened Wildlife and Plants; 12-Month Finding for a Petition to List the Yellow-billed Cuckoo (*Coccyzus americanus*) in the Western Continental United States. Notice of 12-month petition finding. Proposed Rule. Fish and Wildlife Service. July 25, 2001. Federal Register 66 (143):38611-38626.

72 FR 7843. 2007. Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To Reclassify the Utah Prairie Dog From Threatened to Endangered and Initiation of a 5-Year Review. Fish and Wildlife Service. February 21, 2007. Federal Register 72 (34):7843-7852.

Aldridge, C.L., and M.S. Boyce. 2007, Linking occurrence and fitness to persistence: a habitat-based approach for endangered greater sage-grouse. Ecological Applications 17:508-526.

Bettinger, R.L. and M.A. Baumhoff. 1982. The Numic Spread: Great Basin Cultures in Competition. American Antiquity 47:485-503.

BLM. 1986. Warm Springs Resource Area Resource Management Plan and Final Environmental Impact Statement (WSRA RMP/FEIS). Richfield District, September 1986.

BLM. 1987. House Range Resource Area Resource Management Plan and Record of Decision (HRRA RMP/ROD) Richfield District, October 1987.

BLM 1988a. House Range Resource Area RMP Oil and Gas Leasing Implementation EA UT-050-89-025. December 1988.

BLM 1988b. Warm Springs Resource Area RMP Oil and Gas Leasing Implementation EA. December 1988.

BLM. 1996. Environmental Assessment, Noxious Weed Control Plan for the Cedar City Field Office EA UT-044-96-15. Cedar City Field Office, Cedar City, Utah.

BLM. 1997. Standards for Rangeland Health and Guidelines for Grazing Management.

BLM. 2001. Special Status Species Management. BLM Utah State Office, Salt Lake City, Utah.

BLM. 2006a. Best Management Practices for Raptors and Their Associated Habitats in Utah. BLM Utah State Office, Salt Lake City, Utah.

BLM. 2006b. BLM Utah NEPA Guidebook. [Online version available at http://www.blm.gov/ut/st/en/info/nepa.2.html]

BLM. 2006c. Conservation Measures from Land Use Plan-level Consultations for T&E Species of Utah. August 2006.

BLM. 2006d. Biological Assessment of Livestock Grazing in Bald Eagle, Mexican Spotted Owl, Southwestern Willow Flycatcher, California Condor, and Western Yellow-Billed Cuckoo Habitat on Bureau Of Land Management Lands, Beaver and Iron Counties, Utah.

BLM. 2007a. Final Programmatic Environmental Impact Statement Vegetation Treatments on Bureau of Land Management Lands in 17 Western States. Reno, Nevada. June 2007.

BLM. 2007b. Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development "Gold Book." Fourth Edition, Revised 2007.

Colorado Greater Sage-Grouse Conservation Plan Steering Committee. 2008. The Colorado Greater Sage-Grouse Conservation Plan. Colorado Division of Wildlife. Denver, CO. Unpublished Report.

Copeland, J. M. and R. E. Fike. 988. Fluted Projectile Points in Utah. *Utah Archaeology* 1988: 5-28.

Doherty, K.E., D.E. Naugle, RL. Walker, J.M. Graham. 2008. Greater sage-grouse winter habitat selection and energy development. Journal of Wildlife Management. In Press.

D'Azevedo, W. 1986. Handbook of North American Indians, vol. 11 on the Great Basin. Smithsonian Institution, Washington, D.C.

Fish and Wildlife Service (FWS). 1991. Utah Prairie Dog Recovery Plan. U.S. Fish and Wildlife Service. Denver Colorado. 41pp

FWS. 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp. Online version available at http://migratorybirds.fws.gov/reports/bcc2002.pdf

FWS. 2004. Section 7 Consultation for Oil and Gas Lease Sales. December 16, 2004.

Griswold, T., F.D. Parker, and V.J. Tepedino. 1997. The Bees of the San Rafael Desert: Implications for the Bee Fauna of the Grand Staircase-Escalante National Monument. Learning from the Land, Biology Section. Grand Staircase-Escalante National Monument Science Symposium Proceedings, Cedar City, Utah.

Holloran, M.J. 2005. Greater sage-grouse (*Centrocercus urophasianus*) population response to natural gas field development in western Wyoming. Dissertation. University of Wyoming, Laramie, USA.

Holloran, M.J., B.J. Heath, A.G. Lyon, S.J. Slater, J.L. Kuipers, and S.H. Anderson. 2005. Greater sage-grouse nesting habitat selection and success in Wyoming. Journal of Wildlife Management 69: 638-649.

Holloran, M.J., R.C. Kaiser, and W.A. Hubert. 2007. Population response of yearling greater sage-grouse to the infrastructure of natural gas fields in southwestern Wyoming. Completion report. Wyoming Cooperative Fish and Wildlife Research Unit, Laramie, WY, USA.

Holmer, R.N. 1978. A Mathematical Typology for Archaic Projectile Points of the Eastern Great Basin. Ph.D. dissertation, University of Utah, Salt Lake City.

Kaiser, R.C. 2006. Recruitment by greater sage-grouse in association with natural gas development in western Wyoming. Thesis. University of Wyoming. Laramie, USA.

Lyon, A.G. and S.H. Anderson. 2003. Potential gas development impacts on sage grouse nest initiation and movement. Wildlife Society Bulletin 31:486-491.

Madsen, D.B. and S.R. Simms. 1998. The Fremont Complex: A Behavioral Perspective. Journal of World Prehistory 12:255-336.

McDonald, K.P. 1993. Analysis of the Utah prairie dog recovery program, 1972-1992. Publication No. 93-16, Utah Division of Wildlife Resources.

McDonald, K.P., and R.A. Bonebrake. 1994. Evaluation of BLM approved transplant sites for Utah prairie dogs. Unpublished Rept. Division of Wildlife Resources, 21 pp.

McGuire, K.R. and W.R. Hildebrandt. 2005. Re-thinking Great Basin Foragers: Prestige Hunting and Costly Signaling during the Middle Archaic Period. American Antiquity 70:695-712.

Menkens, G.E., and S.H. Anderson. 1985. The effects of vibroseis on white-tailed prairie dog populations on the Laramie Plains of Wyoming. Report to the U.S. Bureau of Land Management, Interagency Agreement #WY910-IA2-1187, 15 pp.

Moynahan B. J. 2004. Landscape-scale factors affecting population dynamics of greater sage-grouse (*Centrocercus urophasianus*) in north central Montana, 2001-2004. Dissertation, The University of Montana. Missoula, USA.

Naugle, D. E., R L. Walker, and K. E. Doherty. 2006. Sage-grouse winter habitat selection and energy development in the Powder River Basin: completion report on. Unpublished Report, Wildlife Biology Program, College of Forestry and Conservation, University of Montana, Missoula, Montana, USA. 24 JUNE 2006

Norman, V.G. 1996. *The Parowan Gap – Nature's Perfect Observatory*. Cedar Fort, Utah.

Parrish, J.R., F.P. Howe, R.E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources, 1594 West North Temple, Salt Lake City, UT 84116, UDWR Publication Number 02-27. i–xiv + 302 pp.

Rodriguez, R. 2006. Life History and Analysis of Endangered, Threatened, Candidate, Sensitive, and Management Indicator Species of the Fish Lake National Forest. U.S. Forest Service, Fish Lake National Forest, Richfield, UT.

Romin, L.A. and J.A. Muck. 2002. Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances. U.S. Fish and Wildlife Service, Utah Field Office, Salt Lake City. May 1999.

Rosmarino, N.J. 2003. Comments re annual black-tailed prairie dog (*Cynomys ludovicianus*) status review information request. Letter of February 3, 2003, to US Fish and Wildlife Service, Pierre, SD.

Stokes, W.L. 1987. Geology of Utah. Utah Museum of Natural History, Salt Lake City, Utah.

Utah Department of Agriculture and Food (UDAF). 2008. Utah Noxious Weed List. Accessed September 2008. http://ag.utah.gov/plantind/nox_utah.html

Utah Department of Wildlife Resources (UDWR). 2002. Strategic Management Plan for Sage-grouse; State of Utah, Division of Wildlife Resources; June 11, 2002; Publication Number 02-20.

UDWR. 2008a. Burrowing Owl Fact Sheet. Accessed September 2008. http://dwrcdc.nr.utah.gov/rsgis2/Search/Display.asp?FlNm=athecuni

UDWR. 2008b. Dark Kangaroo Mouse Fact Sheet. Accessed September 2008. http://dwrcdc.nr.utah.gov/rsgis2/search/Display.asp?FlNm=micrmega

UDWR 2008c. Elk Fact Sheet. Accessed September 2008. http://dwrcdc.nr.utah.gov/rsgis2/Search/Display.asp?FlNm=cervelap

UDWR 2008d. Mule Deer Fact Sheet. Accessed September 2008. http://dwrcdc.nr.utah.gov/rsgis2/Search/Display.asp?FlNm=odochemi

UDWR. 2008e. Utah Prairie Dog Fact Sheet. Accessed September 2008. http://dwrcdc.nr.utah.gov/rsgis2/Search/Display.asp?FlNm=cynoparv

UDWR. 2008f. Pygmy Rabbit Fact Sheet. Accessed September 2008. http://dwrcdc.nr.utah.gov/rsgis2/Search/Display.asp?FlNm=bracidah

UDWR 2008g. Yellow-billed Cuckoo Fact Sheet. Accessed September 2008. http://dwrcdc.nr.utah.gov/rsgis2/Search/Display.asp?FlNm=coccamer

Walker, R.L., D.E. Naugle, and K.E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. Journal of Wildlife Management 71:2644-2654.

Western Regional Climate Center (WRCC). 2008. Climate Summaries for the West. http://www.wrcc.dri.edu

Young, D.K. and P. Sawyer, 1981, Influence of Seismic Vibrators on Utah Prairie Dog (*Cynomys parvidens*) Burrows. USDI Bureau of Land Management Staff Report.

APPENDIX A

INTERDISCIPLINARY TEAM ANALYSIS RECORD CHECKLIST

Project Title: Oil & Gas Leasing in Fillmore Field Office
NEPA Log Number: UT-010-2008-050
File/Serial Number: Issued Leases will be Assigned Serial Numbers by the USO
Project Leader: Terry Catlin, USO, Coordinate with Jerry Mansfield of the FFO

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions
NI = present, but not affected to a degree that detailed analysis is required
PI = present with potential for significant impact analyzed in detail in the EA; or identified in a DNA as requiring further analysis
NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section C of the DNA form.

Determination	Resource	Rationale for Determination*	Signature	Date
		CRITICAL ELEMENTS		
NI	Air Quality	Air Quality within the Fillmore Field Office is generally good. The nearest non-attainment areas are within the SLFO to the north. The November O&G lease offering does not propose any foreseeable impacts to air quality within the area. Development would be analyzed on a site specific basis. As a whole, utilizing the Reasonably Foreseeable Development Scenario from the previous PEA, the proposed action does not present the potential for impacts to air quality other then isolated fugitive dust.	/s/ Matt Rajala	9/11/08
PI	Areas of Critical Environmental Concern	Category 3 lease parcels that would impact ACEC's include Pavant Butte, Tabernacle Hill, Gandy Mountain Cave, Crystal Peak, Fossil Mountain, Gandy Salt Marsh, and the Wah Wah Mountains.	/s/SBonar	9/03/08
PI	Cultural Resources	After consideration of cultural resource information and other general data including: the applicable House Range Resource Management Plan (RMP), Warm Springs RMP and associated Environmental Impact Statement (EIS); oil and gas activity NEPA documents; specific data relating to the individual proposed parcels such as topography and soils; as well as personal knowledge and experience of the lands at issue, it has been determined that reasonable development could occur without adverse impacts to cultural properties eligible to the NRHP. Based on the existing information, proposed parcels 23, 44-46 should not be offered for lease at this time. Native American consultation will be completed prior to the lease offering. Should the status of the tribe's concerns change, these parcels could be offered. The Utah Protocol Part VII.A.C. was applied to the cultural resource review for the November 2008 Oil and Gas Lease Sale. The FFO determination, under the Utah Protocol review threshold at Part VII.A.C(4), is: **"No Historic Properties Affected; eligible sites present but not affected as defined by 36CFR800.4."** Known cultural resources are located in such a fashion (size, density and placement) that avoidance is feasible during development of oil and gas resources. The potential for locating additional cultural resources within the proposed lease parcels reviewed for the November 2008 Oil and Gas Lease Sale is moderate. A complete inventory of the proposed lease parcels has not occurred; therefore, the following stipulation should be added to each lease parcel: *"This lease may be found to contain historic properties and/ or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves and Protection Act, E.O. 13007, or other statutes and*	/s/ Joelle McCarthy	9/23/08

Determination	Resource	Rationale for Determination*	Signature	Date
		executive orders. The BLM will not approve any ground disturbing activities that may affect such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated."		
NI	Environmental Justice	There are no minority or low income populations identified within the Fillmore Field Office. The proposed action would not have a disproportionately adverse impact on low income or minority populations.	/s/ Matt Rajala	9/11/2008
NI	Farmlands (Prime or Unique)	Under the November O&G lease offering the proposed action would not permanently remove any lands from agricultural production. Under the RFD mentioned under air quality there would be no permanent removal of lands from agricultural production. At such a time that a discovery is made and production begins, with associated occupancy, the impacts must be reanalyzed.	/s/ Matt Rajala	9/11/2008
PI	Floodplains	Several of the lease parcels occur in areas that incorporate floodplains. As much of the FFO has not been mapped by HUD or FEMA, maps are not readily available. Development and occupancy of the leases (both Nov 08 and on) would need to incorporate the BMP or mitigation of planning for the 100 year flood event in the design of the project. This would have to be analyzed on a case by case basis. Under most circumstances the 200 meter movement would mitigate any placement of well pads. Access roads must also incorporate the 100 year planning in their design.	/s/ Matt Rajala	9/11/2008
PI	Invasive, Non-native Species	The BLM coordinates with County and local governments to conduct an active program for control of invasive, non-native species. Leasing the parcels could lead to soil disturbance related to development on the leases and the roads leading to them resulting in an increase in invasive, non-native species. Standard operating procedures such as washing of vehicles and annual monitoring and spraying along with site specific mitigation should be sufficient to prevent the spread or introduction of invasive, non-native species. The potential for spread of invasive species is analyzed in the EA.		9/23/08
PI	Native American Religious Concerns	The Paiute Tribe of Utah (PITU), Confederated Tribes of the Goshute Reservation, Kanosh Band of the Paiute Tribe, Skull Valley Goshute Tribe and the Uinta and Ouray Ute Tribe were notified via certified letter on September 8, 2008. After the 30-day response period, 3 responses from tribes were received. The lease offering for August 2007 included four parcels that are being offered during this November 2008 offering. The attached report includes the information provided during the August 2007 offering updated with current responses.	/s/ Joelle McCarthy	9/23/08
NP	Threatened, Endangered or Candidate Plant Species	There are no known federally-listed plant species on BLM lands within the Fillmore Field Office area.	/s/ DWhitaker	9/09/08
PI	Threatened, Endangered or	There are Yellow-billed cuckoo and UT prairie dog habitat present within the Fillmore Field Office and need to be analyzed within the	Robin Naeve	10/23/08

Determination	Resource	Rationale for Determination*	Signature	Date
	Candidate Animal Species	EA. These species are not covered in either RMP and need to be covered in the EA. The non-essential experimental population designation for California condor comes into the FFO area and needs to be analyzed.		
NI	Wastes (hazardous or solid)	Drilling fluids, produced waters, and other wastes associated with the exploration, development or production of crude or natural gas are excluded as a hazardous waste under 40 CFR 261.4(b)(4). BLM standard approval for oil and gas operations would require that the operators be subject to required coordination with and/or permitting from applicable local and state agencies, and otherwise conform to applicable state and federal laws and regulations when conducting activities involving the generation, storage, or transport of hazardous materials. Additionally, federal and state operating and reporting requirements include provisions for the cleanup and mitigation of releases. Site specific mitigation and best management practices, employed to limit potential negative impacts to the environment from waste generating activities, would be sufficient to ensure proper containment, transport and disposal of solid or toxic waste if any are required or generated.		9/23/08
PI	Water Quality (drinking/ground)	Many of the area have water sources such as wells and springs. BLM should not approve any ground disturbing activities that may affect water quality. The BLM may require modification to exploration or development proposals to protect water quality and water resources, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated. Also, see comments under riparian below.	/s/PCaso	9/11/08
PI	Wetlands/Riparian Zones	Wetlands and Riparian areas are present in various places throughout the Fillmore Field Office Area. The Utah Riparian Management Policy states that No new surface disturbing activities will be allowed within 100 meters of riparian areas unless it can be shown that: A. there are not practical alternatives or, B. all long term impacts can be fully mitigated or, C. the activity will benefit and enhance the riparian area. Additionally the HRRA supplemental analysis contains a 500 foot buffer that would be utilized, which provides a greater level of protection. There are several riparian areas that are so large that the standard offset for protection of such things as riparian areas is not adequate. These areas are the Clear Lake Area, Gandy Salt Marsh/Bishop Springs/Twin Springs Area, The Sevier River Complex which includes Swan Lake, Crafts lake and surrounding riparian zones, And the south tract riparian areas south of Delta and Oasis. These areas have been identified on a map and it may be necessary in these areas to have a lease notice attached to any new leases allowing restrictions to surface activities to meet the riparian policy requirements. **Application of a standard lease notice similar to U-LN-60 should be applied to parcels with riparian areas.**		9/05/08
NP	Wild and Scenic Rivers	There are no Wild & Scenic rivers within the FFO.	/s/SBonar	9/03/08
PI	Wilderness/WSA's	Category 3 lease proposals in WSA's include: the Deep Creek Mountains, Swasey Mountains, Notch Peak, King Top, Wah Wah Mountains, and the Rockwell Natural Area. The current Interim Management Policy for WSA's (H-8550-1) and leasing regulations	/s/SBonar	9/03/08

Determination	Resource	Rationale for Determination*	Signature	Date
		at 43 CFR 3100 (2) (viii) prohibit leasing for oil and gas in these areas.		
OTHER RESOURCES / CONCERNS**				
PI	Rangeland Health Standards and Guidelines	Wetlands & Riparian Areas Must be maintained in proper functioning condition to meet the guidelines for grazing management. The Utah Riparian management Policy must be followed for the guidelines to be met. Surface disturbance of riparian areas may cause a riparian area to either not function or function at risk.	/s/ Bill Thompson	9/5/08
PI	Livestock Grazing	Depending on the extent of surface disturbing activities livestock grazing may be affected. Management facilities must be avoided or put in functioning condition following disruption. Further site specific analysis would be completed when the APD is completed.	/s/ Bill Thompson	9/5/08
NI	Woodland / Forestry	Given the low degree of anticipated exploration and development (one well per year for the next 10 years with a total surface disturbance of 60 acres), low density of well placement, and application of standard operating procedures, along with the ability to require relocation of proposed operations by up to 200 meters, it is anticipated that any impacts to woodland/forestry resources would be negligible.		9/23/08
PI	Vegetation including Special Status Plant Species other than FWS candidate or listed species	See attached plant statement. For BLM lands within the entire FFO, plant surveys would be required on all proposed oil and gas actions that occur on potential habitat for any special status plant species. Again, the standard lease stipulations, which allow for relocation of proposed facilities up to 200 meters, would allow for the necessary protection of most plant populations due to the sparse nature of most plant populations. However, a large extensive population of Neese narrowleaf penstemon may require a lease notice to provide it sufficient protection. Please see attached plant statement for necessary details.	/s/DWhitaker	9/9/08
PI	Fish and Wildlife Including Special Status Species other than FWS candidate or listed species e.g. Migratory birds.	There has been updated to the big game crucial range areas since the RMP's and supplemental Oil & Gas EA's were written, therefore they need to be analyzed in the EA. Also there is potential habitat for many sensitive species, fish, mollusks, birds and wildlife that need to be addressed, pygmy rabbits and sage-grouse especially. The list of species should include everything from the UDWR county sensitive species list for Juab and Millard Co. Migratory birds should be mentioned since they also may be effected including raptors.	Robin Naeve	10/23/08
NI	Soils	The leasing of lands does not authorize ground disturbing activities. Disturbance resulting from an APD would be analyzed on a cases by case basis and mitigated as necessary.	/s/Matt Rajala	9/11/08
PI	Recreation	There could be minor impacts to casual recreation. Impacts would revolve primarily with utilization of access roads by both recreationalists and lessee's and in some cases displacement of recreational uses of some dispersed campsites and/or staging areas for OHV use.	/s/SBonar	9/03/08
PI	Visual Resources	VRM Class's II and III could be impacted if proposed lease parcels permit surface occupation.	/s/SBonar	9/03/08
PI	Geology / Mineral Resources/Energy Production	Leases and lease activity would be according to regulation and the appropriate management plan. However, leasing would not necessarily result in exploration or production activity. Production of oil and or gas would result in a permanent removal of those resources.	/s/J Mansfield	09/03/08

Determination	Resource	Rationale for Determination*	Signature	Date
NI	Paleontology	Paleontological resources are not known to occur at a density in the Fillmore Field Office area at such a density the resource could not be protected with standard lease stipulations.	/s/J Mansfield	09/03/08
PI	Lands / Access	Oil and gas leasing should not affect access to public land and leases would be subject to valid existing rights-of-way (ROW). Existing roads and trails should be used for travel unless otherwise authorized. During wet road conditions, any ruts deeper than four inches remaining on the roads from the project should be repaired at the Authorized Officer's discretion. Subsequent projects should coordinate with existing ROW holders and apply operating procedures and site specific mitigation at the APD stage that would ensure that communication sites, water projects, and power-lines, etc. would be avoided, restored or replaced. Any parcels nominated under the UTTR airspace, would require coordination with the USAF.	CStevens	9/3/08
NI	Fuels / Fire Management	Fuels management would not be affected by leasing and application of standard operating procedures and safety measures would minimize the risk of inadvertent ignition. Therefore impacts to fire or fuels management are expected to be negligible.		9/23/08
NI	Socio-economics	Since the RFD calls for no development or producing wells there would not be any impacts to socio-economics.	/s/ Matt Rajala	9/11/08
NI	Wild Horses and Burros	Given the low degree of anticipated exploration and development (one well per year for the next 10 years with a total surface disturbance of 60 acres) and application of standard operating procedures including reclamation to reestablish wild horse habitat it is concluded that wild horses within the HMA would experience very short durations (1-2 day) of disturbance. This would not be any more disturbance than casual use of the area for recreation use and would not affect the wild horses in the area.		9/23/08
PI	Wilderness characteristics	The following areas were found to possess wilderness characteristics in the 1999 wilderness inventory; Rockwell, Dugway Mountains, Fish Springs, Swasey Mountains, Notch Peak, Conger Mountain, King Top, Wah Wah Mountains, and Deep Creek Mountains. In addition, the following areas have undergone additional wilderness characteristics review by the FFO in 2008 and the following have been identified as having additional characteristics: Little Drum Mountains North, Little Drum Mountain, Drum Mountains, Crater Bench East, Lion Peak, and East and West Keg Mountains.	/s/SBonar	9/03/08

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
NEPA / Environmental Coordinator		11/4/08	
Authorized Officer		11-4-08	

Follow the italicized instructions below and then delete the asterisks "" in the checklist, this sentence, and the instructions.*

APPENDIX B

Recommended Resource Protective Measures for Oil and Gas Leasing in the Fillmore Field Office

Notice Number	FILLMORE FIELD OFFICE NOTICES
FFO-LN-01	**CRUCIAL WINTER MULE DEER AND ELK HABITAT** The lessee/operator is given notice that lands in this lease have been identified as containing crucial mule deer and/or elk winter habitat. Exploration, drilling and other development activities would be restricted from December 1 through April 30 to protect crucial winter range. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-02	**CRUCIAL ELK CALVING AND DEER FAWNING HABITAT** The lessee/operator is given notice that lands in this lease have been identified as containing crucial elk calving or deer fawning habitat. Exploration, drilling and other development activities would be restricted from May 1 through June 30 to protect antelope fawning. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-03	**PRONGHORN FAWNING HABITAT** The lessee/operator is given notice that lands in this lease have been identified as containing antelope fawning habitat. Exploration, drilling and other development activities would be restricted from May 1 through June 29 to protect antelope fawning. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-04	**PRONGHORN WINTER HABITAT** The lessee/operator is given notice that lands in this lease have been identified as containing crucial pronghorn winter habitat. Exploration, drilling and other development activities would be restricted from December 1 through April 30 to protect crucial winter range. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-05	**ROCKY MOUNTAIN BIGHORN SHEEP** The Lessee/Operator is given notice that the lands in this parcel contains habitat for desert bighorn sheep. Modifications to the surface use plan may be required in order to protect habitat from surface disturbing activities. These modifications may include such measures as timing restrictions to avoid surface use during the crucial lambing and rutting seasons. Measure may also include avoidance of certain areas such as water sources and talus slopes. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-06	**GREATER SAGE-GROUSE NESTING AND EARLY BROOD-REARING** The lessee/operator is given notice that this lease has been identified as containing sage grouse nesting and early brooding habitat. Exploration, drilling and other development activities would be restricted from March 15 through July 15 within 2.0 miles of an occupied lek, or in mapped and identified greater sage-grouse nesting and early brood-rearing habitat. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-07	**GREATER SAGE-GROUSE WINTER CONCENTRATION AREAS** The lessee/operator is given notice that this lease has been identified as containing sage grouse winter concentration area. Exploration, drilling and other development activities would be restricted from November 15 through March 1 in identified greater sage-grouse winter concentration areas. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.

Notice Number	FILLMORE FIELD OFFICE NOTICES
FFO-LN-08	**GREATER SAGE-GROUSE LEKS** Exploration, drilling, and other associated development should not be allowed from March 1st to July 15th in order to minimize disturbance to breeding sage grouse. Surface occupancy with historic or presently occupied habitat should be avoided. Permanent development near active or historically active leks should be avoided as they are often considered the focal point of year round activities for non-migratory populations (Braun et. al. 1977. Habitat surrounding the breeding grounds provides the majority of the nesting and early brood rearing habitat. Surveys to determine presence/absence of sage grouse prior to commencing work. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-09	**WATERFOWL NESTING AREAS** The lessee/operator is given notice that this lease has been identified as containing surface waters with nesting water fowl habitat. Exploration, drilling and other development activities would be restricted from March 15 through July 15 within 0.25 mile of identified surface waters with nesting waterfowl habitat. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-10	**WATERFOWL WINTER CONCENTRATION AREAS** The lessee/operator is given notice that this lease has been identified as containing surface waters with concentrations of wintering waterfowl habitat. Exploration, drilling and other development activities would be restricted from November 1 through March 15 within 0.25 mile identified surface waters with concentrations of wintering waterfowl habitat. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-11	**UTAH SENSITIVE SPECIES - YELLOW-BILLED CUCKOO** The lessee/operator is given notice that lands in this parcel have been identified as containing important habitat for named species on the Utah Sensitive Species List. Modifications to the Surface Use Plan of Operations may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-12	**BALD EAGLE WINTER ROOST SITES** The lessee/operator is given notice that this lease has been identified as containing bald eagle habitat. Exploration, drilling and other development activities would not be allowed from November 1 through March 31 which would disrupt bald eagle roosting activities within 0.5 mile of known roosts, unless the area has been surveyed according to protocol and determined to be unoccupied. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-13	**BALD EAGLE NEST SITES** The lessee/operator is given notice that this lease has been identified as containing bald eagle habitat. Exploration, drilling and other development activities would not be allowed from January 1 through August 31which would disrupt bald eagle breeding activities within 1 mile of any known bald eagle nesting site. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-14	**GOLDEN EAGLE NEST SITES** The lessee/operator is given notice that this lease has been identified as containing golden eagle habitat. Exploration, drilling and other development activities would not be allowed from January 1 through August 31 which would disrupt golden eagle breeding activities within 0.5 mile of an occupied nest. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.

Notice Number	FILLMORE FIELD OFFICE NOTICES
FFO-LN-15	**PEREGRINE FALCON NEST SITES** The lessee/operator is given notice that this lease has been identified as containing peregrine falcon nesting habitat. Exploration, drilling and other development activities would not be allowed from February 1 through August 31 which would disrupt peregrine falcon breeding activities within 1 mile of an occupied nest. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-16	**BURROWING OWL HABITAT** The lessee/operator is given notice that this lease has been identified as containing burrowing owl habitat. Exploration, drilling and other development activities would not be allowed from March 1 through August 31 which would disrupt burrowing owl breeding activities within 0.25 mile of an occupied nest. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-17	**FERRUGINOUS HAWK NEST SITES** The lessee/operator is given notice that surface use or otherwise disruptive activity would not be allowed from March 1 through August 1 which would disrupt ferruginous hawk breeding activities within 0.5 mile of an occupied nest. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-18	**GREATER SAGE-GROUSE LEKS** The lessee/operator is given notice that surface use or otherwise disruptive activity would not be allowed which would result in an aboveground facility within 0.5 mile of any active greater sage-grouse lek. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-19	**BALD EAGLE HABITAT** The Lessee/Operator is given notice that the lands in this parcel contains nesting/winter roost habitat for the bald eagle. Avoidance or use restrictions may be placed on all or portions of the lease. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside the bald eagle breeding or roosting season. A temporary action is completed prior to the following breeding or roosting season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding or roosting season and/or causes a loss of eagle habitat or displaces eagles through disturbances, i.e. creation of a permanent structure. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-20	**BALD EAGLE NEST OR WINTER ROOST SITES** The lessee/operator is given notice that surface use or otherwise disruptive activity would not be allowed which would result in an aboveground facility within 0.5 mile of known bald eagle winter roost areas or known bald eagle nest site, which has been active within the past 3 years. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-21	**MIGRATORY BIRD** The lessee/operator is given notice that surveys for nesting migratory birds may be required during migratory bird breeding season whenever surface disturbances and/or occupancy is proposed in association with fluid mineral exploration and development within priority habitats. Surveys should focus on identified priority bird species in Utah. Field surveys will be conducted as determined by the authorized officer of the Bureau of Land Management. Based on the result of the field survey, the authorized officer will determine appropriate buffers and timing limitations. This notice may be waived, excepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-23	**CONSERVATION AGREEMENT SPECIES** The lessee/operator is given notice that lands in this lease have been identified as containing Conservation Agreement species and/or their habitats. To comply with the intent of the Conservation Agreement the lesee is hereby on notice that there may have to meet special requirements needed specific to the agreement.

Notice Number	FILLMORE FIELD OFFICE NOTICES
FFO-LN-24	**VRM CLASS II** Visual values and proposed actions will be evaluated to determine appropriate mitigations and conformance with Visual Resource Management Class II objectives.
FFO-LN-25	**VRM CLASS III** Visual values and proposed actions will be evaluated to determine appropriate mitigations and conformance with Visual Resource Management Class III objectives.
FFO-LN-26	**RAPTORS** Surveys will be required whenever surface disturbances and/or occupancy is proposed in association with fluid mineral exploration and development within potential raptor nesting areas. Field surveys will be conducted as determined by the authorized officer of the Bureau of Land Management. Based on the result of the field survey, the authorized officer will determine appropriate buffers and timing limitations. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-27	**PYGMY RABBIT** The lessee/operator is given notice that surface use or otherwise disruptive activity would not be allowed which would result in an aboveground facility or semi-permanent (e.g., roads, pipelines, reservoirs, etc.) within 300 feet of pygmy rabbit habitat. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-28	**DRINKING WATER PROTECTION** The lessee/operator is given notice that this lease parcel overlaps a drinking water protection zone for public water sources in Utah. At the time of development, drilling operators will conform to the operational regulation and Onshore Oil & Gas Order Number 2, which requires the protection and isolation of all usable quality waters.
FFO-LN-29	**UTAH SENSITIVE SPECIES** The lessee/operator is given notice that no surface use or otherwise disruptive activity would be allowed that would result in direct disturbance to populations or individual special status plant and animal species, including those listed on the BLM sensitive species list and the Utah sensitive species list. The lessee/operator is also given notice that lands in this parcel have been identified as containing potential habitat for species on the Utah Sensitive Species List. Modifications to the Surface Use Plan of Operations may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, Migratory Bird Treaty Act and 43 CFR 3101.1-2. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.

Notice Number	FILLMORE FIELD OFFICE NOTICES
FFO-LN-30	**UTAH PRAIRIE DOG** The lessee/operator is given notice that lands in this lease may contain historic and/or occupied Utah prairie dog habitat, a threatened species under the Endangered Species Act. Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend whether the action is temporary or permanent, and whether it occurs when prairie dogs are active or hibernating. A temporary action is completed prior to the following active season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one activity/hibernation season and/or causes a loss of Utah prairie dog habitat or displaces prairie dogs through disturbances, i.e. creation of a permanent structure. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following: 1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s). 2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. 3. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in prairie dog habitat. 4. Surface occupancy or other surface disturbing activity will be avoided within 0.5 mile of active prairie dog colonies. 5. Permanent surface disturbance or facilities will be avoided within 0.5 mile of potentially suitable, unoccupied prairie dog habitat, identified and mapped by Utah Division of Wildlife Resources since 1976. 6. The lessee/operator should consider if fencing infrastructure on well pad, e.g., drill pads, tank batteries, and compressors, would be needed to protect equipment from burrowing activities. In addition, the operator should consider if future surface disturbing activities would be required at the site. 7. Within occupied habitat, set a 25 mph speed limit on operator-created and maintained roads. 8. Limit disturbances to and within suitable habitat by staying on designated routes. 9. Limit new access routes created by the project. Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

Notice Number	FILLMORE FIELD OFFICE NOTICES
FFO-LN-31	**CALIFORNIA CONDOR** The Lessee/Operator is given notice that the lands located in this parcel contain potential habitat for the California Condor, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease if the area is known or suspected to be used by condors. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside potential habitat. A temporary action is completed prior to the following important season of use, leaving no permanent structures and resulting in no permanent habitat loss. This would include consideration for habitat functionality. A permanent action continues for more than one season of habitat use, and/or causes a loss of condor habitat function or displaces condors through continued disturbance (i.e. creation of a permanent structure requiring repetitious maintenance, or emits disruptive levels of noise). The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following: 1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s) approved by the BLM, and must be conducted according to approved protocol. 2. If surveys result in positive identification of condor use, all lease activities will require monitoring throughout the duration of the project to ensure desired results of applied mitigation and protection. Minimization measures will be evaluated during development and, if necessary, Section 7 consultation may be reinitiated. 3. Temporary activities within 1.0 mile of nest sites will not occur during the breeding season. 4. Temporary activities within 0.5 miles of established roosting sites or areas will not occur during the season of use, August 1 to November 31, unless the area has been surveyed according to protocol and determined to be unoccupied. 5. No permanent infrastructure will be placed within 1.0 mile of nest sites. 6. No permanent infrastructure will be placed within 0.5 miles of established roosting sites or areas. 7. Remove big game carrion to 100 feet from on lease roadways occurring within foraging range. 8. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable habitat Utilize directional drilling to avoid direct impacts to large cottonwood gallery riparian habitats. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. 9. Reinitiation of section 7 consultation with the Service will be sought immediately if mortality or disturbance to California condors is anticipated as a result of project activities. Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA. Additional measures may also be employed to avoid or minimize effects to the species between the lease sale and lease development stages. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the Endangered Species Act.
FFO-LN-32	**SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED** The lessee/operator is given notice that lands in this lease have been identified as containing special status plants, not federally listed, and their habitats. Modifications to the Surface Use Plan of Operations may be required in order to protect the special status plants and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.

Notice Number	FILLMORE FIELD OFFICE NOTICES
FFO-LN-33	**RIPARIAN AREA PROTECTION** The lessee/operator is given notice that in order to protect watersheds, occupancy or other surface disturbing activities will not be allowed within 500 feet of riparian areas and wetlands. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-34	**ERODIBLE SOILS AND STEEP SLOPES** The area is a municipal or non-municipal watershed and has steep slopes and erosive soils. New roads will be constructed to avoid soils that are highly erosive and / or in critical or severe erosion conditions. New roads will be constructed with water bars. Riprap may be required. Road grades in excess of 8 percent will normally not be allowed. In special circumstances, where a road grade of more than 10 percent is allowed, its maximum length will be 1,000 feet. Access grading along with exploration, drilling, construction, or other activities will be prohibited during wet or muddy conditions (usually during spring runoff and summer monsoon rains). This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-35	**STEEP SLOPES** The lessee/operator is given notice that, occupancy would not be allowed on slopes in excess of 30 percent without written permission from the Authorized Officer.
FFO-LN-36	**FLOODPLAINS** The lessee/operator is given notice that lands in this lease could contain a floodplain and may require surveys to avoid adverse impact to the floodplain (520 DM 1). Developments should be located outside of the floodplain. Field surveys will be conducted as determined by the authorized officer of the Bureau of Land Management. This notice may be waived, excepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.
FFO-LN-37	**NOXIOUS WEEDS** The lessee/operator is given notice that lands in this lease have been identified as containing or are near areas containing noxious weeds. Best management practices to prevent or control noxious weeds may be required for operations on the lease.
FFO-LN-38	**UTAH TEST AND TRAINING RANGE** **MILITARY OPERATIONS AREA (MOA)** All or portions of this parcel are located underneath Utah Test and Training Range (UTTR) Airspace. The airspace is comprised of Military Operations Areas and Restricted Airspace. Prior to approval of any operations on this lease you must contact the 388th Range Squadron Security Office, Hill Air Force Base (801-777-3242) for coordination concerning the following requirements: 1) The MOA air space starts at 100 ft. above ground surface. No towers or rigs may be installed in excess of 100 ft. above ground level (AGL) without UTTR coordination. 2) No permanent construction above 500 AGL is allowed. 3) Lease sites may not be permanently manned. 4) There can be no limitations on current Chaff (100 ft. AGL) and Flares (2,000 ft. AGL). 5) No electronic counter measures (ECM) conflicts/limitations would be allowed. A total frequency review will be required to ensure there is no conflict. 6) No noise limitations are allowed. 7) No live weapon over-flight limitations will be permitted. The military will not be liable for wildfire damage.
FFO-LN-39	**NATIONAL HISTORIC TRAILS or HISTORIC PROPERTIES** The lessee/operator is given notice that lands in this lease have been identified as containing or are near a historic trail(s) or historic properties. After proper consultation, best management practices to prevent impacts to such resources may be required for operations on the lease.

Notice Number	FILLMORE FIELD OFFICE NOTICES
FFO-LN-40	**Cultural Resources Located Sandy or Erodible Soils** This parcel is located in an area of high concentrations of cultural resources. Known cultural sites are fragile and many are buried under sandy deposits which migrate due to their susceptibility to wind. These sites, or large portions, are not visible from the surface. Therefore, the following mitigation measures may be applied to any surface disturbance of this parcel: 1) pre-surface disturbance cultural resource inventories; 2) pre-surface disturbance subsurface testing; 3) monitoring of ground disturbance; and 4) post-disturbance monitoring indentifying resources as the soils stabilize around a project.

APPENDIX C:
BLM Form 3100-11, Offer to Lease and Lease for Oil and Gas

Form 3100-11
(July 2006)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OFFER TO LEASE AND LEASE FOR OIL AND GAS

Serial Number

The undersigned (page 2) offers to lease all or any of the lands in Item 2 that are available for lease pursuant to the Mineral Lands Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 et seq.), the Mineral Leasing Act for Acquired Lands of 1947, as amended (30 U.S.C. 351-359), or _____(other).

READ INSTRUCTIONS BEFORE COMPLETING

1. Name
   Street
   City, State, Zip Code

2. This application/offer/lease is for: *(Check Only One)* ☐ PUBLIC DOMAIN LANDS ☐ ACQUIRED LANDS (percent U.S. interest _____)

   Surface managing agency if other than Bureau of Land Management (BLM): _____ Unit/Project _____

   Legal description of land requested: *Parcel No.: _____ *Sale Date (mm/dd/yyyy): _____

   ***See Item 2 in Instructions below prior to completing Parcel Number and Sale Date.**

T.	R.	Meridian	State	County

Total acres applied for _____

Amount remitted: Filing fee $ _____ Rental fee $ _____ Total $ _____

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T.	R.	Meridian	State	County

Total acres in lease _____

Rental retained $ _____

This lease is issued granting the exclusive right to drill for, mine, extract, remove and dispose of all the oil and gas (except helium) in the lands described in Item 3 together with the right to build and maintain necessary improvements thereupon for the term indicated below, subject to renewal or extension in accordance with the appropriate leasing authority. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance, and to regulations and formal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of this lease.

NOTE: This lease is issued to the high bidder pursuant to his/her duly executed bid or nomination form submitted under 43 CFR 3120 and is subject to the provisions of that bid or nomination and those specified on this form.

Type and primary term:

☐ Noncompetitive lease (ten years)

☐ Competitive lease (ten years)

☐ Other _____

THE UNITED STATES OF AMERICA

by _____
(BLM)

_____
(Title) (Date)

EFFECTIVE DATE OF LEASE _____

(Continued on page 2)

4. (a) Undersigned certifies that (1) offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or Territory thereof, (2) all parties holding an interest in the offer are in compliance with 43 CFR 3100 and the leasing authorities; (3) offeror's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options, (4) offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located; (5) offeror is in compliance with qualifications concerning Federal coal lease holdings provided in sec. 2(a)2(A) of the Mineral Leasing Act; (6) offeror is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (7) offeror is not in violation of sec. 41 of the Act. (b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms conditions, and stipulations of which offeror has been given notice, and any amendment or separate lease that may include any land described in this offer open to leasing at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or in part unless the withdrawal is received by the proper BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments.

Duly executed this _____ day of _____ , 20 ____ _____
(Signature of Lessee or Attorney-in-fact)

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make it a crime for any person knowingly and willfully to make to any department or Agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

LEASE TERMS

Sec. 1. Rentals--Rentals must be paid to proper office of lessor in advance of each lease year. Annual rental rates per acre or fraction thereof are:

(a) Noncompetitive lease, $1.50 for the first 5 years; thereafter $2.00;

(b) Competitive lease, $1.50; for the first 5 years; thereafter $2.00;

(c) Other, see attachment, or

as specified in regulations at the time this lease is issued.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties must be paid on the production allocated to this lease. However, annual rentals must continue to be due at the rate specified in (a), (b), or (c) rentals for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) must automatically terminate this lease by operation of law. Rentals may be waived, reduced, or suspended by the Secretary upon a sufficient showing by lessee.

Sec. 2. Royalties--Royalties must be paid to proper office of lessor. Royalties must be computed in accordance with regulations on production removed or sold. Royalty rates are:

(a) Noncompetitive lease, 12 1/2%;

(b) Competitive lease, 12 1/2 %;

(c) Other, see attachment; or

as specified in regulations at the time this lease is issued.

Lessor reserves the right to specify whether royalty is to be paid in value or in kind, and the right to establish reasonable minimum values on products after giving lessee notice and an opportunity to be heard. When paid in value, royalties must be due and payable on the last day of the month following the month in which production occurred. When paid in kind, production must be delivered, unless otherwise agreed to by lessor, in merchantable condition on the premises where produced without cost to lessor. Lessee must not be required to hold such production in storage beyond the last day of the month following the month in which production occurred, nor must lessee be held liable for loss or destruction of royalty oil or other products in storage from causes beyond the reasonable control of lessee.

Minimum royalty in lieu of rental of not less than the rental which otherwise would be required for that lease year must be payable at the end of each lease year beginning on or after a discovery in paying quantities. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced, for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

An interest charge will be assessed on late royalty payments or underpayments in accordance with the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) (30 U.S.C. 1701). Lessee must be liable for royalty payments on oil and gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator, or due to the failure to comply with any rule, regulation, order, or citation issued under FOGRMA or the leasing authority.

(Continued on page 3)

4. (a) Undersigned certifies that (1) offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or Territory thereof, (2) all parties holding an interest in the offer are in compliance with 43 CFR 3100 and the leasing authorities; (3) offeror's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options, (4) offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located; (5) offeror is in compliance with qualifications concerning Federal coal lease holdings provided in sec. 2(a)2(A) of the Mineral Leasing Act; (6) offeror is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (7) offeror is not in violation of sec. 41 of the Act. (b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms conditions, and stipulations of which offeror has been given notice, and any amendment or separate lease that may include any land described in this offer open to leasing at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or in part unless the withdrawal is received by the proper BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments.

Duly executed this _____ day of _____ , 20 ____ _____
(Signature of Lessee or Attorney-in-fact)

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make it a crime for any person knowingly and willfully to make to any department or Agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

LEASE TERMS

Sec. 1. Rentals--Rentals must be paid to proper office of lessor in advance of each lease year. Annual rental rates per acre or fraction thereof are:

(a) Noncompetitive lease, $1.50 for the first 5 years; thereafter $2.00;

(b) Competitive lease, $1.50; for the first 5 years; thereafter $2.00;

(c) Other, see attachment, or

as specified in regulations at the time this lease is issued.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties must be paid on the production allocated to this lease. However, annual rentals must continue to be due at the rate specified in (a), (b), or (c) rentals for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) must automatically terminate this lease by operation of law. Rentals may be waived, reduced, or suspended by the Secretary upon a sufficient showing by lessee.

Sec. 2. Royalties--Royalties must be paid to proper office of lessor. Royalties must be computed in accordance with regulations on production removed or sold. Royalty rates are:

(a) Noncompetitive lease, 12 1/2%;

(b) Competitive lease, 12 1/2 %;

(c) Other, see attachment; or

as specified in regulations at the time this lease is issued.

Lessor reserves the right to specify whether royalty is to be paid in value or in kind, and the right to establish reasonable minimum values on products after giving lessee notice and an opportunity to be heard. When paid in value, royalties must be due and payable on the last day of the month following the month in which production occurred. When paid in kind, production must be delivered, unless otherwise agreed to by lessor, in merchantable condition on the premises where produced without cost to lessor. Lessee must not be required to hold such production in storage beyond the last day of the month following the month in which production occurred, nor must lessee be held liable for loss or destruction of royalty oil or other products in storage from causes beyond the reasonable control of lessee.

Minimum royalty in lieu of rental of not less than the rental which otherwise would be required for that lease year must be payable at the end of each lease year beginning on or after a discovery in paying quantities. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced, for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

An interest charge will be assessed on late royalty payments or underpayments in accordance with the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) (30 U.S.C. 1701). Lessee must be liable for royalty payments on oil and gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator, or due to the failure to comply with any rule, regulation, order, or citation issued under FOGRMA or the leasing authority.

(Continued on page 3)

A. General:

1. Page 1 of this form is to be completed only by parties filing for a noncompetitive lease. The BLM will complete page 1 of the form for all other types of leases.

2. Entries must be typed or printed plainly in ink. Offeror must sign Item 4 in ink.

3. An original and two copies of this offer must be prepared and filed in the proper BLM State Office. See regulations at 43 CFR 1821.2-1 for office locations.

4. If more space is needed, additional sheets must be attached to each copy of the form submitted.

B. Special:

Item 1 - Enter offeror's name and billing address.

Item 2 - Identify the mineral status and, if acquired lands, percentage of Federal ownership of applied for minerals. Indicate the agency controlling the surface of the land and the name of the unit or project which the land is a part. The same offer may not include both Public Domain and Acquired lands. Offeror also may provide other information that will assist in establishing title for minerals. The description of land must conform to 43 CFR 3110. A single parcel number and Sale Date will be the only acceptable description during the period from the first day following the end of a competitive process until the end of that same month, using the parcel number on the List of Lands Available for Competitive Nominations or the Notice of Competitive Lease Sale, whichever is appropriate.

Payments: The amount remitted must include the filing fee and the first year's rental at the rate of $1.50 per acre or fraction thereof. The full rental based on the total acreage applied for must accompany an offer even if the mineral interest of the United States is less than 100 percent. The filing fee will be retained as a service charge even if the offer is completely rejected or withdrawn. To protect priority, it is important that the rental submitted be sufficient to cover all the land requested. If the land requested includes lots or irregular quarter-quarter sections, the exact area of which is not known to the offeror, rental should be submitted on the basis of each such lot or quarter-quarter section containing 40 acres. If the offer is withdrawn or rejected in whole or in part before a lease issues, the rental remitted for the parts withdrawn or rejected will be returned.

Item 3 - This space will be completed by the United States.

NOTICES

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provide that you be furnished with the following information in connection with information required by this oil and gas lease offer.

AUTHORITY: 30 U.S.C. 181 et seq.; 30 U.S.C 351-359.

PRINCIPAL PURPOSE: The information is to be used to process oil and gas offers and leases.

ROUTINE USES: (1) The adjudication of the lessee's rights to the land or resources. (2) Documentation for public information in support of notations made on land status records for the management, disposal, and use of public lands and resources. (3) Transfer to appropriate Federal agencies when consent or concurrence is required prior to granting a right in public lands or resources. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: If all the information is not provided, the offer may be rejected. See regulations at 43 CFR 3100.

The Paperwork Reduction Act of 1995 requires us to inform you that:
This information is being collected pursuant to the law.
This information will be used to create and maintain a record of oil and gas lease activity.
Response to this request is required to obtain a benefit.

BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 1 hour per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0185), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop, 401LS, Washington, D.C. 20240.

(Form 3100-11, page 4)

APPENDIX D:
Oil and Gas Leasing Implementation Environmental Assessments

EA Number UT-050-89-025

HOUSE RANGE RESOURCE AREA RMP

OIL AND GAS LEASING IMPLEMENTATION

ENVIRONMENTAL ASSESSMENT

TEAM LEADER:

Alan Partridge

PARTICIPATING STAFF:

Michael Jackson
Toby Manzanares

RECOMMENDED BY:

Area Manager, _____ Date 12/20/88

REVIEWED BY:

Assist. DM for Resources _____ Date 12/21/88

Environmental Coordinator _____ Date 12/20/88

Assist. DM for PEAS _____ Date 12/21/88

APPROVED BY:

District Manager _____ Date 12-29-88

This EA presents a development scenario and details the site specific special stipulations under which the Category 2 and 3 area would be available for leasing. It is needed to adequately analyze the impacts and to comply with NEPA guidance.

III. PROPOSED ACTION

As directed by the HRRA-RMP decisions, oil and gas tracts would be issued and reissued with the categories described in that document under the following development scenario and with the following stipulations.

A. Development scenario for exploration and development.

In the past several years, about five exploratory wells have been drilled. Thus, about one well every two years, or five wells during a 10-year planning horizon. None of the wells drilled to date have provided a hydrocarbon showing that would justify development; thus, it is assumed that no development would occur during the planning period. It is expected that each new exploratory well pad would disturb about one acre of land and that access roads, about two miles long, would disturb about five acres. Consequently, every other year, about six acres would be disturbed for a total disturbance of 30 acres. Rehabilitation would begin after completion of the first well; this would leave approximately 12 acres disturbed and other areas in the rehabilitation process during the 10-year period. Rehabilitation would require about three years. Seismograph exploration could also occur with method to assure soil and vegetation protection would be used.

TABLE 2-29

Fluid Mineral Leasing Categories for 2 and 3 Areas

MAP NO. CATEGORY 2: Open Lease Area Subject to Special Stipulations

1 Baker Hot Springs - 160 Acres

In order to protect the Baker Hot Springs and associated marsh area, no occupancy or other surface disturbance will be allowed within 1500 feet of live water.

No exceptions will be granted to this stipulations.

2 Critical Watersheds - 5,154 Acres

In order to protect the critical watershed, no occupancy or other surface disturbance will be allowed within 500 feet of any perennial streams or springs. The Maple Peaks area is a critical watershed which has streams and numerous springs originating on it which are used for human consumption as well as for farming, livestock and wildlife use.

Exceptions to this stipulation may be authorized by the BLM if it can be shown that the activity will not have an adverse impact on the watershed.

3 Gunnison Bend Reservoir - 80 Acres

In order to protect the recreational values of the Gunnison Bend Reservoir, no occupancy or other surface disturbance will be allowed within 1,000 feet of the high water line. This is an irrigation water storage reservoir on the Sevier River and has very high use by picnickers, recreationists, boaters, and warm water fishermen.

No exceptions will be granted to this stipulation.

4. DMAD Reservoir and Sevier River - 2,011 Acres

In order to protect the Sevier River Riparian Area and DMAD Reservoir, no occupancy or other surface disturbance will be allowed within 100 feet of the river or 1,000 feet of the reservoir high water line. The Sevier River is a fresh water stream which is used for irrigation as well as supplying water to several reservoirs which is used for water recreation and fisheries. The DMAD Reservoir is used to store irrigation water as well as serving as a fishery.

No exceptions will be granted to this stipulation.

TABLE 2-29 (Cont'd)

Fluid Mineral Leasing Categories for 2 and 3 Areas

MAP NO. CATEGORY 3: Open Lease Area Subject to No Surface Occupancy

9 Paul Bunyon's Woodpile - 356 Acres

All of the land in the designated area is included in Paul Bunyon Woodpile Recreation Area to protect the unique geologic features of columnar jointing in the basalt. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder may, however, exploit the oil and gas resources in this area by directional drilling resources in this area by directional drilling from sites outside this area.

No exceptions will be granted to this stipulation.

10 Joy Townsite - 80 Acres

All of the land in the designated area is included in the Joy Townsite to protect the historic townsite and gravesite. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder, however, may exploit the oil and gas resources in this area by directional drilling from sites outside this area.

Exceptions to this stipulation in any year may be specifically authorized in writing by the BLM if it can be shown that the activity would not impact the townsite or gravesite.

11 Swazey Mountains SRMA - 36,414 Acres

All of the land in the designated area is included in the Swazey Mountains Special Recreation Management Area. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder may, however, exploit the oil and gas resources in this area by directional drilling from sites outside this area.

No exceptions will be granted to this stipulation.

12 Sevier Bridge Reservoir SRMA (Yuba Dam) - 1,120 Acres

All of the land in the designated area is included in the Sevier Bridge Reservoir Special Recreation Management Area to protect recreational use. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder may, however, exploit the oil and gas resources in this area by directional drilling from sites outside this area.

No exceptions will be granted to this stipulation.

TABLE 2-29 (Cont'd)

Fluid Mineral Leasing Categories for 2 and 3 Areas

MAP NO. CATEGORY 3: Open Lease Area Subject to No Surface Occupancy

17 Antelope Springs Riparian Area - (Included in Swazey SRMA)

All of the land in the designated area is included in the Antelope Springs Riparian Area. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder may, however, exploit the oil and gas resources in this area by directional drilling from sites outside this area.

No exceptions will be granted to this stipulation.

18 Trout Creek Riparian Area - 320 acres

All of the land in the designated area is included in the Trout Creek Riparian Area. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder may, however, exploit the oil and gas resources in this area by directional drilling from sites outside this area.

No exceptions will be granted to this stipulation.

19 Tom's Creek Riparian Area - 200 Acres

All of the land in the designated area is included in the Trout Creek Riparian Area. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder may, however, exploit the oil and gas resources in this area by directional drilling from sites outside this area.

No exceptions will be granted to this stipulation.

20 Red Cedar Creek Riparian Area - 320 Acres

All of the land in the designated area is included in the Red Cedar Creek Riparian Area. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder may, however, exploit the oil and gas resources in this area by directional drilling from sites outside this area.

No exceptions will be granted to this stipulation.

January 2009

TABLE 2-29 (Concluded)

Fluid Mineral Leasing Categories for 4 Areas

MAP NO. CATEGORY 4: Closed to Leasing

38 Cold Springs Least Chub Habitat - 80 Acres

All of the land in the designated area is included in the Cold Springs Least Chub Habitat and is closed to leasing. Exceptions to this stipulation in any year may be specifically authorized in writing by the BLM if it can be shown that the activity would not impact the least chub habitat.

Category Totals	Acres
Category 1 (Standard Stipulations)	2,112,594
Category 2 (Special Stipulations)	34,454
Category 3 (No Surface Occupancy)	75,592
Category 4 (No Leasing)	21,394

1. These designations would receive other special designation if not designated as wilderness.

For convenience, a reduced copy of the RMP (Map 8) is attached.

IV. DESCRIPTION OF AFFECTED ENVIRONMENT

The description (discussion) of the Affected Environment in the draft and final EIS is adequate to cover this EA.

V. ANALYSIS OF THE PROPOSED ACTION

Proposed Action

It is anticipated that six areas would be disturbed every two years by oil and gas activities. During a ten-year planning horizon therefore, about 30 acres would be disturbed. This would involve building of well pads and roads which would disturb the soil surface. However, rehabilitation would be expected to occur within three to five years, depending on the duration of the project and success of the reseeding. Thus, cumulatively, only about 12 acres would be disturbed at any one time. Because of the standard and special stipulations which are involved in the oil and gas lease tracts, protection is

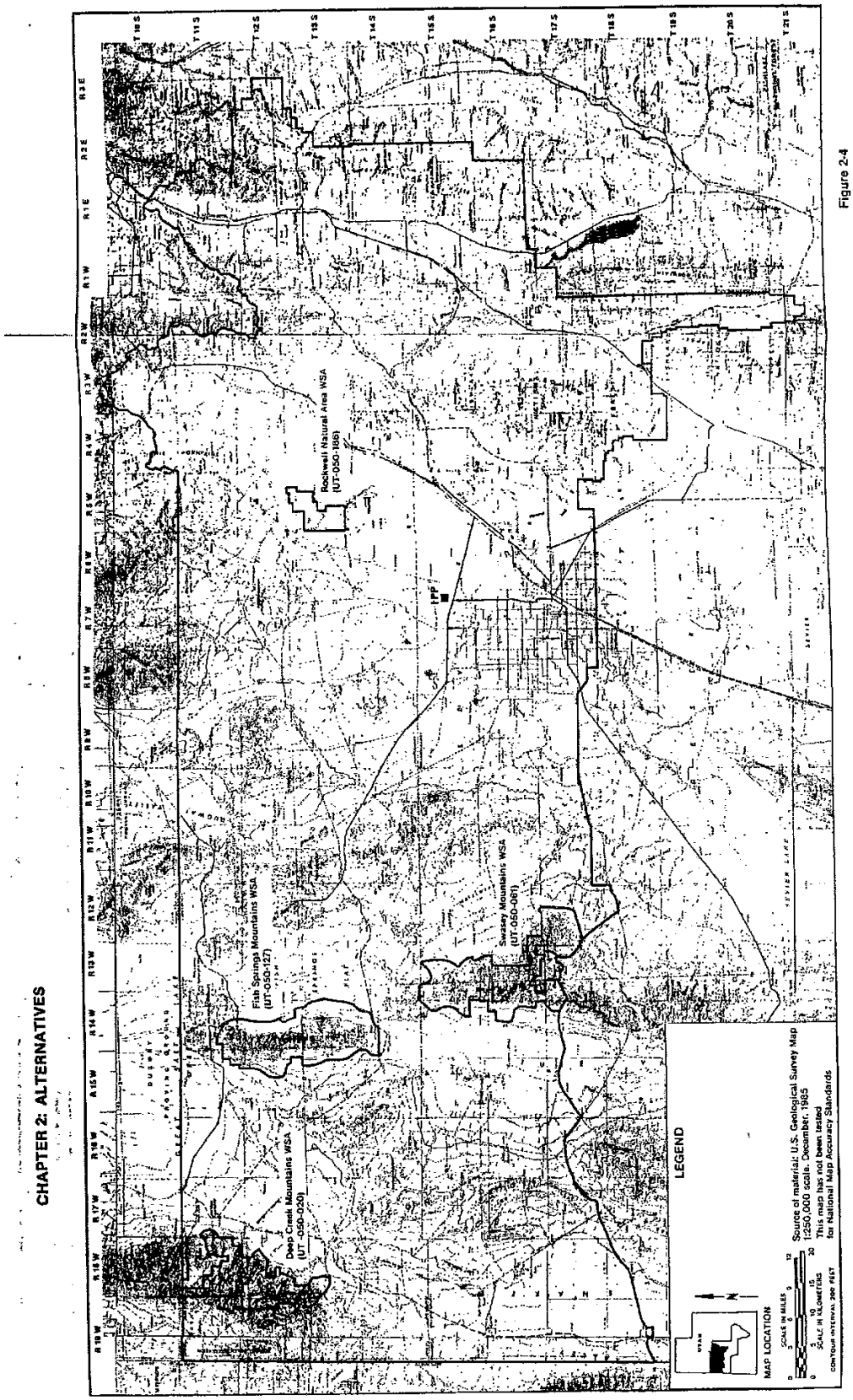


Figure 2-4
WILDERNESS STUDY AREAS

DECISION/RECORD RATIONALE

DECISION: Oil and gas leasing will continue on Public Lands within the Warm Springs Resource Area.

RATIONALE: The analysis of the impacts contained in the RMP/EIS and the EA adequately analyze the impacts of the continued oil and gas exploration. The stipulations contained in the Utah Combined Hydrocarbon Leasing Regional EIS have been adequate and should continue to be adequate. These stipulations have been further elaborated upon in the tables of this EA based on the development scenario developed in the EA. The stipulations are adequate to protect all resources from significant impacts from oil and gas leasing in the Resource Area in the foreseeable future.

The Category 2 and 3 leasing stipulations have protected the resources in the past and will protect the resources in the future.

FONSI: I have reviewed the documents and they adequately analyze the anticipated impacts, and no new or significant impacts would occur which are not analyzed in the Utah Combined Hydrocarbon Leasing Regional EIS or the RMP. Therefore, the environmental impacts are not significant and another EIS is not needed.

Dave Henderson — Area Manager, Warm Springs Resource Area — 12/21/88 — Date

Jerry W Goodman — District Manager, Richfield District — 12-20-88 — Date

Team Leader Alan Partridge Date 12/01/88

Proposed Action: Name, Oil and Gas update Location, WSRA

Description Update oil and gas categories EA

Please identify the significant issues created by the proposed action on your resource, and state why the issue is significant. Initial and date your assessment.

Minerals: Fluid minerals will be available for exploration and development. This action should benefit oil and gas industry.

Lands: No conflict.

Livestock: No conflict.

Forestry: No conflict.

Watershed: About six (6) acres would be opened to erosion at each wildcat site and road.

Recreation: Scenic areas should be in category 3 or 4.

Wildlife: Reporduction areas, i.e. fawning areas must be avoided.

Level of Analysis and documentation of EAR intensity:

Level of Public Interest: None to date.

Signature of Team Leader

I. INTRODUCTION

This Environmental Analysis (EA) is to evaluate the implementation of the oil and gas leasing in the Warm Springs Resource Area (WSRA) with the categories described in the RMP (1986). The EA is needed because the current NEPA documentation did not address a development scenario and the stipulation for the Category 2 and 3 areas. Therefore, this EA tiers to the RMP/EIS for the balance of the evaluation, including the categories and procedures described in that document and the decisions issued in the RMP. The decision presented does not change the RMP, but elaborates the NEPA compliance for the leasing of oil and gas.

Because this assessment finds no significant impact from the analysis of the proposal, it does not address mitigating measures and has no discussion of unavoidable adverse impacts long-term and short-term relationships, or irretrievable and irreversible commitment sections.

This EA tiers to the WSRA-RMP/EIS.

II. PURPOSE AND NEED

The purpose of this action is to allow continued oil and gas leasing with the WSRA in compliance with the RMP and under current leasing categories. The action is needed to implement the RMP.

However, because the exact location where wells would be drilled is not known at this time, site specific NEPA documentation would be required upon receipt of an Application for Permit to Drill before the permit could be approved. That documentation would address cultural resources, threatened and endangered species, visual resource management and other technical requirements as required in BLM's Manual 1792, NEPA Manual.

If an application for exploration or development were received for work in a Wilderness Study Area, that application would be processed as directed by H-8550-1 (IMP Manual), That direction would require completed rehabilitation prior to September 30, 1990.

B. Special Stipulation and Rationale for Category 2 and 3 Areas.

The RMP provides a map showing the categories under which tract would be leased (copy attached). The following table is provided to elaborate the special stipulations for the Category 2 and 3 areas. These special stipulations are added to the RMP as a maintenance item.

The "Fluid Mineral Leasing Categories" as described in the EIS (Table 2-11, p. 45) and the RMP (Table 2-13, p. 43) are replaced with the extended table below:

TABLE 2-11 (Cont'd)

Fluid Mineral Leasing Categories for 2 and 3 Areas

MAP NO. CATEGORY 3: Open Lease Area Subject to No Surface Occupancy

4. Tabernacle Hill ACEC - 3,567 Acres

All of the land in the designated is included in the Tabernacle Hill Area of Critical Environmental Concern because it contains a lava field with unique volcanic features. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder, however, may exploit the oil and gas resources in this area by directional drilling from sites outside this area. No exceptions will be granted to this stipulation.

5 Crystal Peak ACEC[1] - 640 Acres

All of the land in the designated area is included in the Crystal Peak Outstanding Natural Area/Area of Critical Environmental Concern due to its uniqueness as a mountain peak of white igneous rock in a natural condition and its exceptional scenic splendor. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder, however, may exploit the oil and gas resources in this area by directional drilling from sites outside this area. No exceptions will be granted to this stipulation.

6 Fossil Mountain ACEC[1] - 1,920 Acres

All of the land in the designated area is included in the Fossil Mountain Historic Site/Area of Critical Environmental Concern due to the site being an outstanding area for collecting Lower Ordovician fossils. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder, however, may exploit the oil and gas resources in this area by directional drilling from sites outside this area. No exceptions will be granted to this stipulation.

7 Great Stone Face Geologic Landmark - 160 Acres

All of the land in the designated area is included in the Great Stone Face Geologic Landmark due to the resemblance of this natural stone formation to the profile of a Mormon prophet. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder, however, may exploit the oil and gas resources in this area by directional drilling from sites outside this area. No exceptions will be granted to this stipulation.

TABLE 2-11 (Cont'd)

Fluid Mineral Leasing Categories for 2 and 3 Areas

MAP NO. CATEGORY 3: Open Lease Area Subject to No Surface Occupancy

12 South Tule Springs Riparian Area - 90 Acres

All of the land in the designated area is included in the South Tule Springs Riparian Area. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder, however, may exploit the oil and gas resources in this area by directional drilling from sites outside this area. No exceptions will be granted to this stipulation.

13 Clear Lake Waterfowl Refuge - 640 Acres

All of the land in the designated area is included in the Clear Lake Waterfowl Refuge Area to protect the waterfowl refuge. Therefore, no occupancy or disturbance of the surface of the land described in this area is authorized. The leaseholder, however, may exploit the oil and gas resources in this area by directional drilling from sites outside this area. No exceptions will be granted to this stipulation.

CATEGORY 2: Open Lease Area Subject to Special Stipulations

14 Clear Lake Buffer Strip - 6,200 Acres

In order to protect the Clear Lake Waterfowl Buffer Strip exploration, drilling, and other development activity will not be allowed during the period from March 1 through May 30. This stipulation does not apply to maintenance and operation of producing wells. No exceptions will be granted to this stipulation.

15 Lake Creek Marsh Complex - 180 Acres

No occupancy or other surface disturbance will be allowed within 600 feet of the Lake Creek Marsh Complex. This distance may be modified when specifically approved in writing by the authorized officer of the Federal surface management agency when it can be shown that the activity would not impact the riparian vegetation and would limit pollution of water sources by over surface flow of damaging sediments or chemicals.

16 Gunnison Massacre Site - 40 Acres

No occupancy or other surface disturbance will be allowed within 100 feet of the Gunnison Massacre Historic Site Marker. No exceptions will be granted to this stipulation.

IV. DESCRIPTION OF AFFECTED ENVIRONMENT

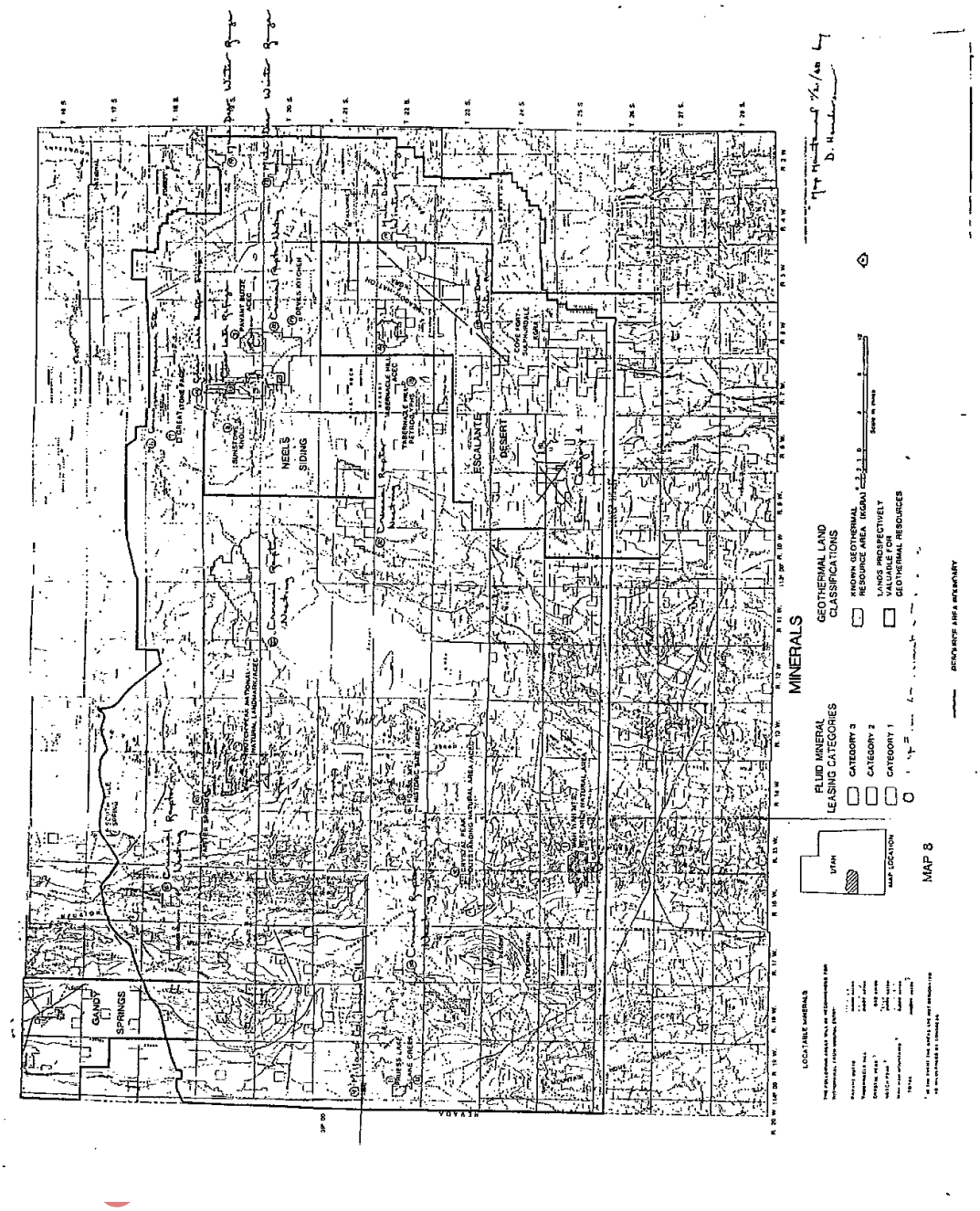
The description (discussion) of the Affected Environment in the draft and final EIS is adequate to cover this EA.

V. ANALYSIS OF THE PROPOSED ACTION

Proposed Action

It is anticipated that six areas would be disturbed every two years by oil and gas activities. During a ten-year planning horizon therefore, about 30 acres would be disturbed. This would involve building of well pads and roads which would disturb the soil surface. However, rehabilitation would be expected to occur within three to five years, depending on the duration of the project and success of the reseeding. Thus, cumulatively, only about 12 acres would be disturbed at any one time. Because of the standard and special stipulations which are involved in the oil and gas lease tracts, protection is provided to special management areas and special environments as required by laws and regulations. Such disturbances and rehabilitation could be designed in a way that environmental damage would be avoided.

With the exception of the six areas proposed for ACEC, other Category 3 areas are small enough that exploration near the boundary of the tract would not deprive the operator of the opportunity to adequately explore the Resource Area. This would leave 23,597 acres of the Planning Area's 2,226,755 acres which could not be explored. However, the IMP requirement for the Wilderness Study Areas (WSA) would restrict development on the five WSAs in the Warm Springs Resource Area: Notch Peak (51,130 acres); Howell Peak (24,800 acres); King Top (84,770 acres); Conger Mountain (20,400 acres); and Wah Wah Mountain (42,140 acres) (see map).


MINERALS
GEOTHERMAL LAND CLASSIFICATIONS
KNOWN GEOTHERMAL RESOURCE AREA (KGRA)
LANDS PROSPECTIVELY VALUABLE FOR GEOTHERMAL RESOURCES
FLUID MINERAL LEASING CATEGORIES
CATEGORY 3
CATEGORY 2
CATEGORY 1
UTAH
MAP LOCATION
MAP 8
NEELS SIDING
ESCALANTE DESERT
GAND SPRINGS

APPENDIX E:
Native American Consultation Letter

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
FILLMORE FIELD OFFICE
35 East 500 North
Fillmore, Utah 84631

TAKE PRIDE IN AMERICA

In Reply Refer to:
8100 (U-010)

September 8, 2008

CERTIFIED MAIL #
RETURN RECEIPT REQUESTED

«FIRSTNAME» «LASTNAME»
«TITLE»
«TRIBE»
«ADDRESS»
«CITY» «ST» «ZIP»

Dear. «Intro» «LastName»:

The Fillmore Field Office (FFO) is seeking your tribe's comments, concerns, or recommendations regarding the following Federal Action by the Department of the Interior (DOI), Bureau of Land Management (BLM).

The BLM/FFO proposes to offer 94 parcels (approximately 91,808 acres) for bid during the November 2008 Oil and Gas Lease Offering. These parcels are grouped into six geographic areas located in Juab and Millard Counties. Attached are maps that show the locations.

If a parcel is not taken by competitive bidding, it may be leased by non-competitive sale for the two years following the competitive offer. A lease may be held for ten years (43 CFR 3120.2-1), after which the lease would expire unless oil or gas is produced in paying quantities. A producing lease would be held indefinitely by paying production of oil or gas.

A lessee's right to explore and drill for oil and gas, at some location on the lease, is implied by issuance of the lease, unless the lease has a non-surface occupancy stipulation. A lessee must submit an application for permit to drill (APD) to the BLM for approval and must possess a BLM approved APD prior to drilling. An environmental assessment must be prepared and a finding of no significant impact made prior to APD approval. Following BLM approval of an APD, a lessee may produce oil and gas from a lease without additional approval.

These lands would be offered subject to applicable laws and standard lease conditions. In addition, lease operations would be subject to the standard operating procedures prescribed in the House Range Resource Area (HRRA) and Warm Springs Resource Area (WSRA) Resource Management Plan (RMP) Oil and Gas Leasing Implementation Environmental Assessments (O&G EA). The FFO will ensure that all of the requirements for the protection of cultural resources are met. That would include

cultural resource survey, Native American consultation, and other measures BLM has legal responsibility to carry out.

The FFO Archaeologist has completed a Class I records review of the FFO cultural data. The results indicate a low to moderate site density level in the lease parcels managed by the FFO. Known cultural resources are located in such a fashion (size, density, and placement) that avoidance is feasible during development of oil and gas resources. Based on the ability to avoid cultural properties, the FFO recommends a finding of No Historic Properties Affected; eligible site present but not affected as defined by 36CFR1800.4. This is based on the determination that at least one well could be located within each parcel without affecting cultural resources. The Class I report is attached.

In addition to the proposed lease offering, The FFO is completing an environmental analysis of the lease categories within the entire FFO administrative boundary (Millard and Juab Counties). This analysis would be used for the purpose of helping to determine the lands within the FFO that would be appropriate to recommend for lease under the current categories prescribed in the WSRA RMP environmental impact statement, HRRA RMP environmental impact statement, WSRA O&G EA, and HRRA O&G EA. Where analysis performed for this proposal indicate lands within the FFO may be inappropriately categorized due to new information or circumstances, these lands will be deferred from leasing until such time as the RMP is amended or a new RMP is developed. Please review the attached leasing categories with the map and submit your comments to our office at the above address. Please note that areas not identified on the map are considered leasing category 1.

The FFO welcomes your comments relating to cultural, environmental or any other issues regarding this project proposal in accordance with the National Environmental Policy Act, the National Historic Preservation Act, and the American Indian Religious Freedom Act to ensure that any concerns you may have about the proposed project are fully considered and incorporated into the environmental analysis. The BLM is requesting your assistance in identifying properties of traditional, religious, or cultural importance which may be affected by the proposed project. The BLM would also like to consult, if possible, with traditional or religious leaders who may have information about places of cultural significance. Your assistance in recommending such leaders would help us in determining the effects to such areas.

If you would like additional information or wish to discuss the project further, please contact Joelle McCarthy, Archeologist at (435) 743-3122. The BLM would appreciate receiving your comments or questions within 30 days of receipt of this letter or no later than October 8, 2007.

Sincerely,

/s/ Nancy J. Allen

Nancy J. Allen
Field Office Manager

Enclosure:
Specialist Report including maps
Lease Categories with map

JMcCarthy:sm

APPENDIX F:
Class I Cultural Resources Inventory

November 2008 Oil and Gas Lease Parcels
Cultural Resources Class I Inventory

SPECIALIST REPORT

Joelle McCarthy
Bureau of Land Management
Fillmore Field Office Archaeologist
19 August 2008

INTRODUCTION

The proposed lease parcels discussed in this report would be offered for lease subject to applicable laws and lease conditions. The proposed parcels described herein may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders.

The Fillmore Field Office (FFO) Class I Inventory Report for the November 2008 Oil and Gas Lease Sale adequately summarizes the presence and absence of archaeological inventories and cultural properties located on each proposed parcel. The Bureau of Land Management (BLM) will not approve any ground disturbing activities that may affect cultural properties eligible to the National Register of Historic Places (NRHP) until it completes its obligations under applicable requirements of the NHPA and other authorities. On all parcels, once a project specific proposal is submitted, an additional Section 106 cultural resource assessment would be completed and site specific issues would be addressed as appropriate. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.

CLASS I INVENTORY RESULTS

All cultural resource information was reviewed and pertinent cultural resource information was analyzed for the **Area of Potential Effect (APE), which is defined as the entire parcel being offered for the November 2008 Oil and Gas lease sale.** Cultural resource information concerning the proposed parcels varies from parcels with no inventories to parcels where some inventories have covered a portion of the area. In no case is the entire parcel completely surveyed. Uninventoried portions or parcels were compared with similar areas where inventories had been conducted. This analysis included an assessment of soils, elevation, topography, vegetation and water resources.

Based on the results of previous cultural resource inventories, the potential for locating additional cultural resources within the proposed lease parcels reviewed for the November 2008 Oil and Gas lease sale is low to moderate. Furthermore, analysis of the reasonably foreseeable impacts of leasing on both identified and unidentified cultural properties resulted in the recommendation of **No Historic Properties Affected.** This is based on the determination that reasonable development (placement of one well pad and access estimated at 6.5 acres) could occur on each proposed parcel without impact to eligible properties. A brief summary and analysis of inventories within the proposed parcels follows, which illustrates how this determination was made.

UT 35-50

These proposed parcels are located south of the Deep Creek Mountains around Trout Creek, Utah. Soils are silty with salt desert shrub vegetation communities in the valleys to rocky soils with sagebrush and juniper in the foothills. Several surveys were completed within the proposed parcels, resulting in the recordation of five archaeological sites. Three archaeological sites are recorded within the parcels with no associated inventory. Based on the data from the inventories within these parcels, site density is 3.3 sites per square mile. These sites are small to medium sized lithic debitage scatters or small historic trash scatters. Sites expected in the unsurveyed portions of the proposed parcels would be consistent with the previously recorded sites in the vicinity. Based on the assessment of soils, elevation, topography, vegetation and water resources in surveyed areas with similar conditions, the potential for finding eligible sites within these proposed parcels is moderate. Due to the expected site type and their density of occurrence, it has been determined that reasonable development could occur on these proposed parcels without impact to eligible cultural properties.

Parcels 44, 45 and 46 had been offered as parcels UT 08 92-94 for lease in August 2007. Based on Native American Concerns leasing was deferred (see attached Native American Coordination report). The FFO will conduct additional tribal coordination at this time to establish if the concerns are still present.

UT 34

This proposed parcel is located in Whirlwind Valley in Millard County, Utah. Soils are silty and vegetation consists primarily of salt desert shrub community. Cultural inventories have been conducted in the vicinity of this parcel with negative results. Expected site types in this area would consist of historic trash scatters and meagerly spaced prehistoric lithic debitage scatters. The potential for finding eligible sites within this proposed parcel would be low. Due to the expected site type, size and their density of occurrence, it has been determined that reasonable development could occur on this proposed parcel without impact to eligible cultural properties.

UT 12-16, 22, 23

These proposed parcels are located along the Front Range, just east of Holden, Fillmore, Meadow and Kanosh, Utah. Soils are rocky with sage and juniper vegetation. Several surveys have been conducted within and near parcels. Based on the data from the inventories, there is one site per every 83 acres. These sites are small to medium sized lithic debitage scatters. Based on the assessment of soils, elevation, topography, vegetation and water resources in surveyed areas with similar conditions, the potential for finding eligible sites within these proposed parcels would be moderate. Expected sites would consist of small lithic scatters associated with hunting camps. Due to the expected site type, size and density of occurrence, it has been determined that reasonable development could occur on these proposed parcels without impact to eligible cultural properties.

Parcel 23 had been offered as parcel UT 08 39 for lease in August 2007. Based on Native American Concerns leasing was deferred (see attached Native American Coordination report). The FFO will conduct additional tribal coordination at this time to establish if the concerns are still present.

UT 17-21 and 24-33

These proposed parcels are located near Desert Mountain, west of Little Sahara Recreation Area in Juab County, Utah. Soils are silty Bonneville deposits and vegetation consists of salt desert shrub communities. Several surveys have been conducted within and near the parcels. Based on the data from the inventories, there is one site per every 179 acres. These sites are small to medium sized lithic debitage scatters. Sites expected in the unsurveyed portions of the proposed parcels would be consistent with the previously recorded sites in the vicinity. Based on the assessment of soils, elevation, topography, vegetation and water resources in surveyed areas with similar conditions, the potential for finding additional eligible sites within these proposed parcels is moderate. Due to the expected site type, size and density of occurrence, it has been determined that reasonable development could occur on these proposed parcels without impact to eligible cultural properties.

UT 01-08

These proposed parcels are located near Sevier Bridge Reservoir in Juab County, Utah. Soils are sandy and vegetation consists of juniper and sagebrush. Several surveys have been conducted within and near the parcels. Based on the data from the inventories, there is one site per every 147 acres. These sites are small to medium sized lithic debitage scatters. Sites expected in the unsurveyed portions of the proposed parcels would be consistent with the previously recorded sites in the vicinity. Based on the assessment of soils, elevation, topography, vegetation and water resources in surveyed areas with similar conditions, the potential for finding additional eligible sites within these proposed parcels is moderate. Due to the expected site type, size and density of

occurrence, it has been determined that reasonable development could occur on these proposed parcels without impact to eligible cultural properties.

UT 09-11

These proposed parcels are located south of Scipio, Utah in Millard County. Soils are colluvium with rocky inclusions and vegetation consists of juniper and sagebrush. Several surveys have been conducted within and near the parcels. Based on the data from the inventories, there is one site per every 407 acres. These sites are small to medium sized lithic debitage scatters. Sites expected in the unsurveyed portions of the proposed parcels would be consistent with the previously recorded sites in the vicinity. Based on the assessment of soils, elevation, topography, vegetation and water resources in surveyed areas with similar conditions, the potential for finding additional eligible sites within these proposed parcels is moderate. Due to the expected site type, size and density of occurrence, it has been determined that reasonable development could occur on these proposed parcels without impact to eligible cultural properties.

SUMMARY

After consideration of cultural resource information and other general data including: the applicable House Range Resource Management Plan (RMP), Warm Springs RMP and associated Environmental Impact Statement (EIS); oil and gas activity NEPA documents; specific data relating to the individual proposed parcels such as topography and soils; as well as personal knowledge and experience of the lands at issue, it has been determined that reasonable development could occur without adverse impacts to cultural properties eligible to the NRHP.

Based on the existing information, proposed parcels 23, 44-46 should not be offered for lease at this time. Native American consultation will be completed prior to the lease offering. Should the status of the tribe's concerns change, these parcels could be offered. The Utah Protocol Part VII.A.C. was applied to the cultural resource review for the November 2008 Oil and Gas Lease Sale. The FFO determination, under the Utah Protocol review threshold at Part VII.A.C(4), is: "**No Historic Properties Affected; eligible sites present but not affected as defined by 36CFR800.4**."

Known cultural resources are located in such a fashion (size, density and placement) that avoidance is feasible during development of oil and gas resources. The potential for locating additional cultural resources within the proposed lease parcels reviewed for the November 2008 Oil and Gas Lease Sale is moderate.

A complete inventory of the proposed lease parcels has not occurred; therefore, the following stipulation should be added to each lease parcel:

"This lease may be found to contain historic properties and/ or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves and Protection Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated."

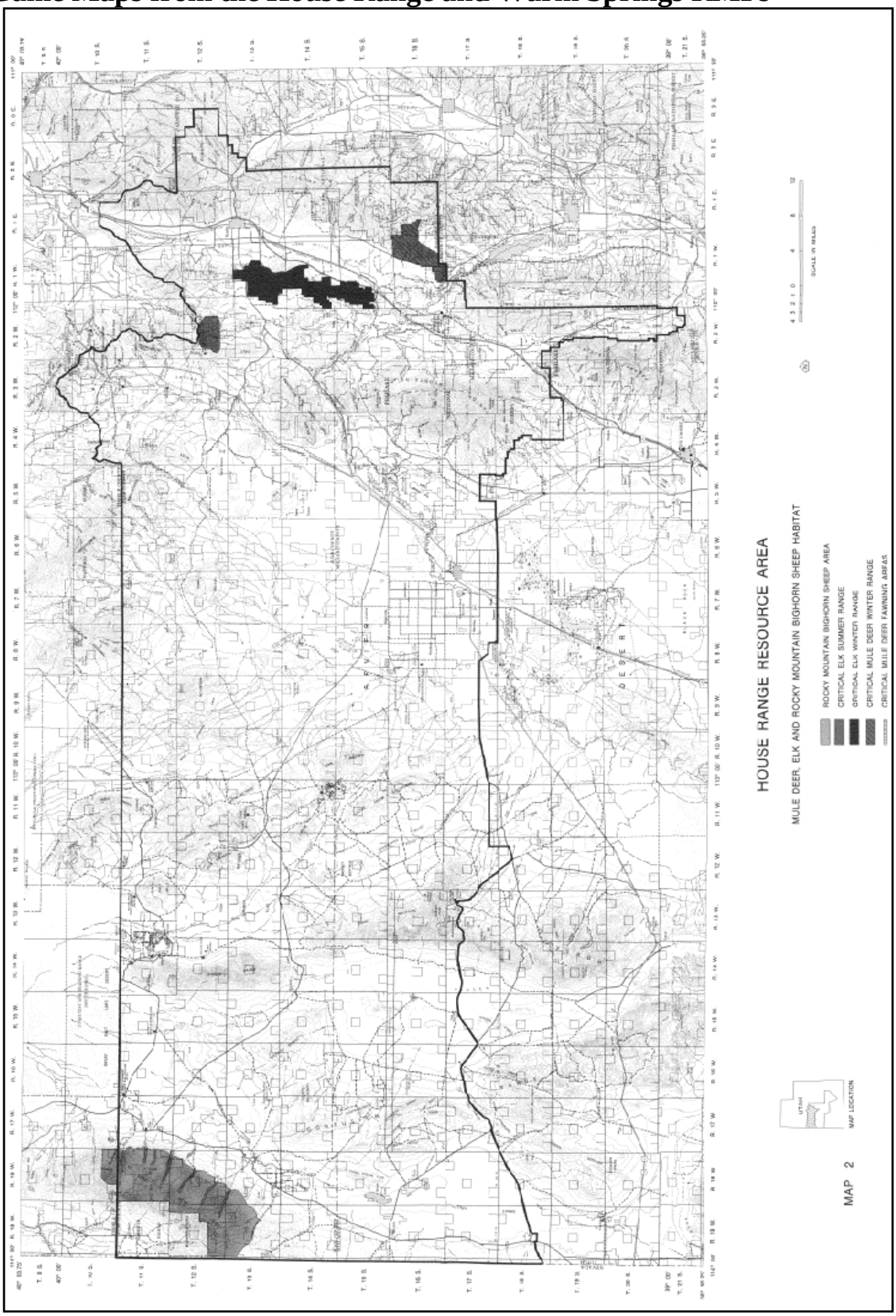
CONSULTATION

The following tribes will be notified via certified letter: Paiute Tribe of Utah (PITU), Confederated Tribes of the Goshute Reservation, Kanosh Band of the Paiute Tribe, Skull Valley Goshute Tribe and the Ute Tribe. A copy of this report and maps will be provided to each of the tribes. They will be asked to identify traditional cultural places or any other areas of traditional cultural importance that need to be considered within the APE. Any comments or concerns regarding leasing the proposed parcels must be submitted to the FFO within thirty days of receipt of the letter.

According to Part VII.A.B (4) of the Utah Protocol, the BLM can request the review of the Utah State Historic Preservation Office (SHPO) prior to project implementation. This review includes requesting SHPO concurrence on the determination of effect. The Utah SHPO will be consulted regarding this proposed project.

APPENDIX G

Big Game Maps from the House Range and Warm Springs RMPs



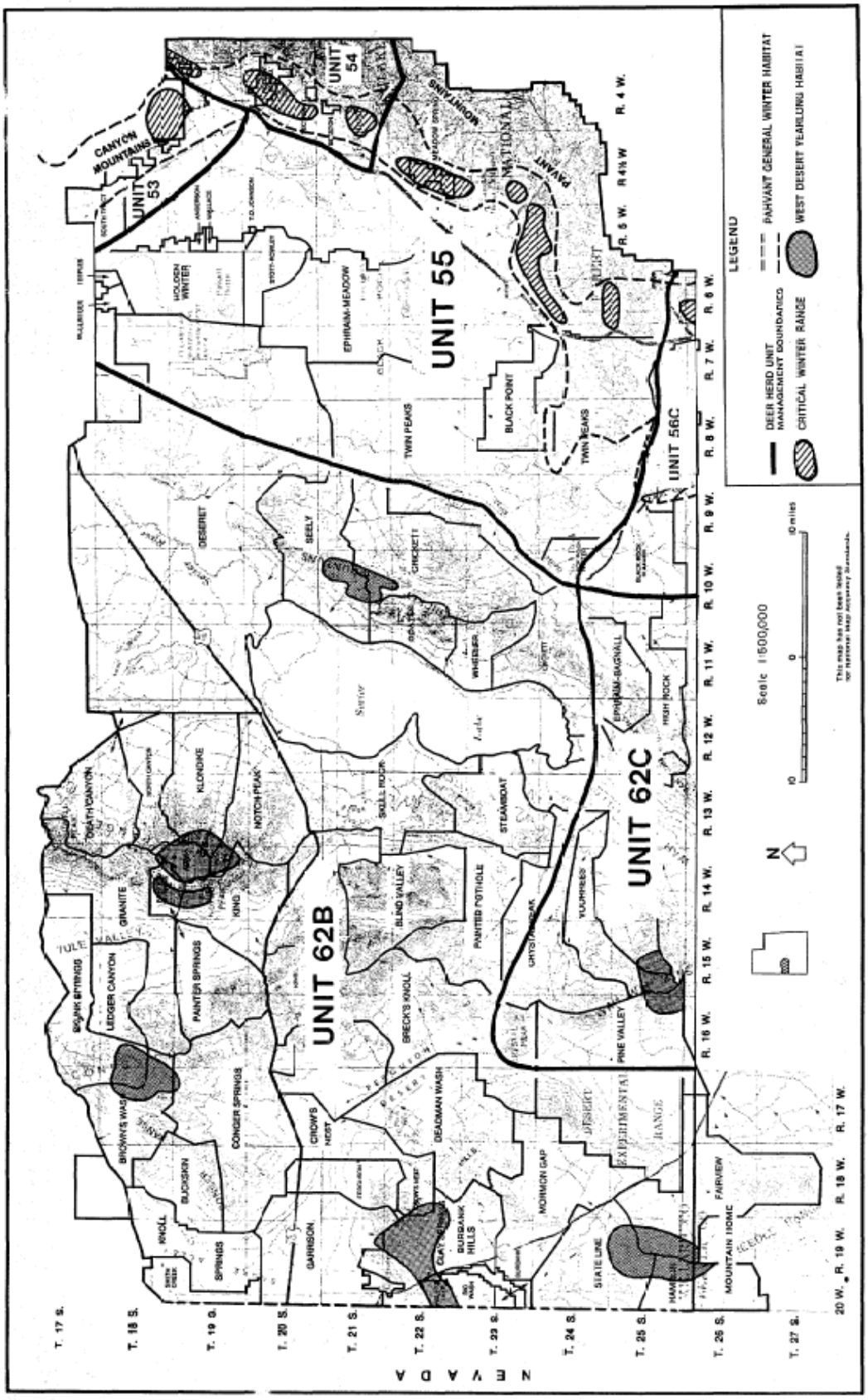


FIGURE 2-4
DEER HERD UNIT BOUNDARIES AND SIGNIFICANT DEER HABITAT

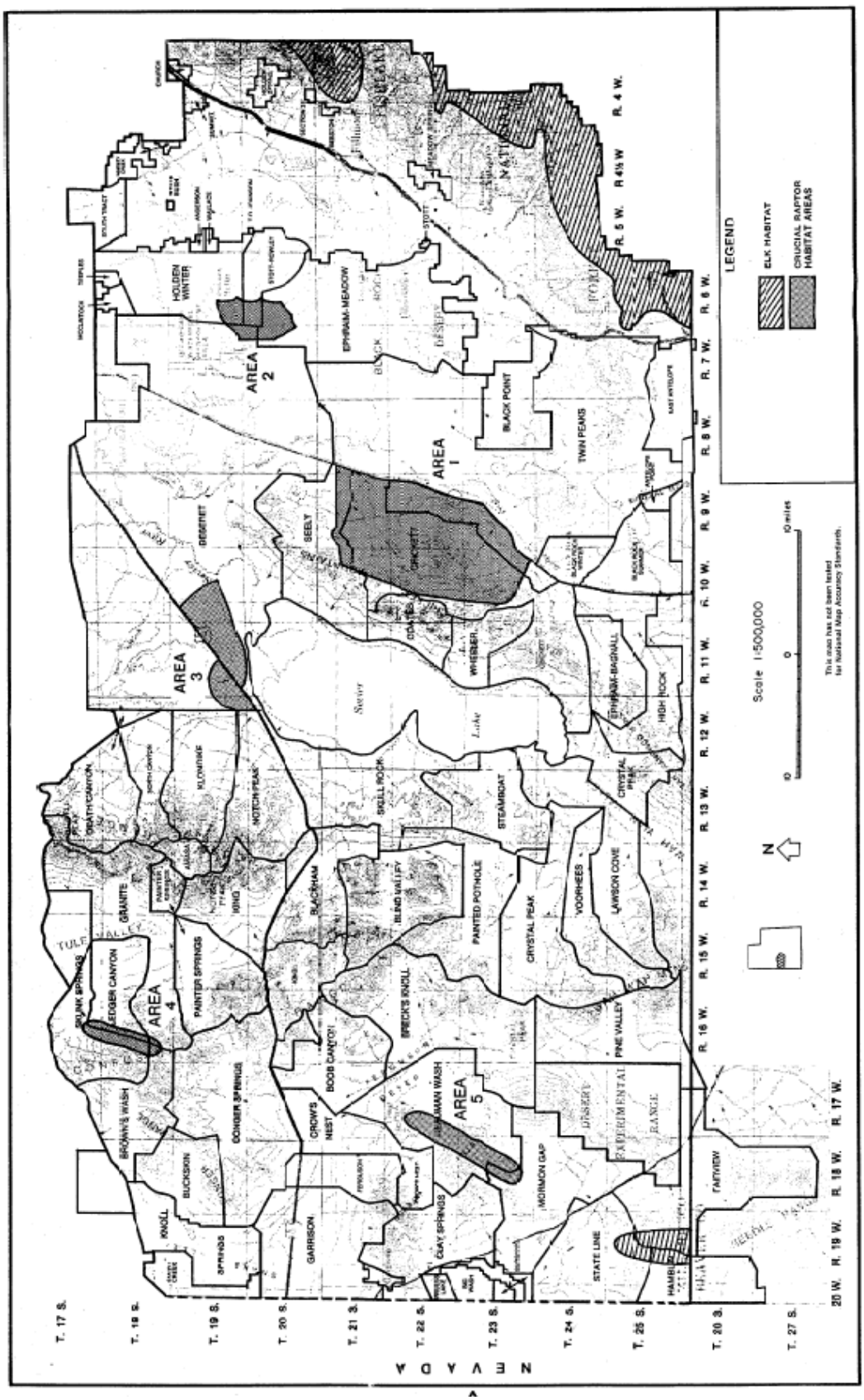


FIGURE 2-5
ELK HABITAT AND CRUCIAL RAPTOR HABITAT AREAS

APPENDIX H

Public Comment Period Letters

APPENDIX I

SHPO Correspondence

APPENDIX J

March 2009 Oil & Gas Lease Sale Report

Special Designations

Area of Critical Environmental Concern

UT0309-027

Approximately 186 acres in sections 5 and 6 T. 20 S; R. 6 W. consists of lands within the Pahvant Butte ACEC. Management direction for this ACEC regarding oil and gas leasing is No Surface Occupancy to protect the relevant and important values of scientific, educational values related to vulcanization activity (inactive volcano) and peregrine falcon reintroduction and habitat. Oil and Gas activities would not affect the primary ACEC but activities from directional drilling could result in a minimal loss of foraging habitat for peregrine falcons which can extend up to one mile from nesting/roosting sites. This loss would result primarily from the displacement of prey species which would require the falcons to extend their foraging range.

Directional drilling outside of the ACEC would not have an effect on the scientific and educational values of the ACEC since this activity would be occurring offsite from the ACEC. However, access to the ACEC could be affected by leasing activity which would result in visitors to the ACEC sharing access with leasing traffic. This can result in diminished visitation to the ACEC.

Wilderness / Wilderness Study Areas

There are no designated wilderness areas within the analysis area. There are no parcels being offered in Wilderness Study Areas which are closed by law to leasing.

Wild and Scenic Rivers

There are no nominated or designated wild and scenic rivers within the analysis area.

Non WSA Lands with Wilderness Characteristics

Deep Creek Mountains, Unit 8

UT1108-035

Approximately 76 acres in sections 14 and 23 T.12 S; R. 18 W are located within unit 8 of the Deep Creek Mountains wilderness inventory area. This area was subject to an intensive field inventory for wilderness characteristics during the 1999 Utah Wilderness Inventory and found not to possess wilderness character. As a result of this determination, surface disturbing activities such as those inherent with oil and gas leasing will not be considered to be intrusive.

UT1108-038

Approximately 1,180 acres in sections 15, 21, 22, 26 and 27 T.12 S; R. 18 W are located within unit 8 of the Deep Creek Mountains wilderness inventory area. This area was subject to an intensive field inventory for wilderness characteristics during the 1999 Utah Wilderness Inventory and found not to possess wilderness character. As a result of this determination, surface disturbing activities such as those inherent with oil and gas leasing will not be considered to be intrusive.

Recreation

Tintic / Sheeprock Mountains SRMA / Little Sahara NRA

UT1108-017, 018, 019, 020, 024, 025, 026, 027, 028, 029, 030, 031, 032 and 033

All of these parcels are located in an area that is being utilized for competitive OHV and motorcycle events. These events use numerous combinations of washes and vehicle routes in this area to establish race courses. Oil and gas exploration will result in some disruption of portions of these courses requiring some future events to be re routed because oil and gas traffic will be utilizing some of the same vehicle routes. Re routing some race courses may result in requiring new cultural inventories before permit authorizations can be granted.

Since competitive events require special recreation use permits, it would be possible to include in each SRP a requirement to identify some mitigation measures that could allow for safe continued use on portions of the routes.

Casual OHV use will be impacted by oil and gas exploration on those roads used by oil/gas industry personnel and equipment to access drill sites. In general potential conflicts between OHV use and oil/gas traffic may shift recreational OHV use from these routes to other areas. However, during the late spring season the area around Little Sahara receives extensive OHV use especially during the Easter weekend. OHV users extend rides from the campgrounds at Little Sahara and Jericho throughout this area, potential for OHV and exploration conflicts on access routes will increase during this time. Big game and upland bird hunting activity may also be impacted by oil/gas activity on these parcels. Potential conflicts may arise through use of the same roads to access the area and parcels. Depending upon the location of drill sites there is also potential that some hunting camps and staging areas will be impacted by drilling activity which can result in these camps and staging areas moving to other areas.

Yuba Lake SRMA

UT1108-003

The west half of parcel 003 includes portions of the east shoreline of Yuba Lake. Portions of the eastern beach and shoreline contain dispersed camping sites and boat launching facilities established by BLM and Utah State Parks. BLM and Utah State Parks have invested heavily in the development of Yuba Lake as a destination recreation site. The SRMA and contiguous State Park receive extensive recreational use annually. Oil and gas exploration activity will result in some impacts to the recreational experience of visitors especially along access routes to the east beach dispersed camping sites and to the visual landscape of the lake. Access into the parcel is limited to existing roads most of which cross private lands. Where these roads are available for public access, the current primary use is by local land owners and recreationists.

UT1108-002, 006, 008

These three parcels are located in the area to the immediate north and west of Yuba Lake. There are concerns that involve the watershed around Yuba Lake which supplies the culinary water source for the State Park and BLM campground water systems. Exploration activity on these parcels would not directly affect recreational activity around the lake. However, indirectly there is potential that leaks and spills that may occur from drilling activity can result in contamination of the water aquifer. Current technology and mitigative BMP measures should minimize potential impacts to the water aquifer from leaks and spills.

Visual Resource Management

UT1108-003, 020

Portions of these two parcels are located within visual resource management class II areas which allows for a minimal change to the characteristic landscape. Changes to the basic shapes, color and texture of the landscape should not be visible and should not attract the attention of the casual observer. Exploration activity will result in change to the linear aspect of the landscape by the addition of the vertical line shape of drilling equipment. Daily or continual use of vehicle routes leading to drill sites will highlight these linear features by changing the contrast of the current line with the existing background texture. Mitigation measures and other BMP's such as using environmentally friendly paints to camouflage or allow structures to blend into the background and/or the placement of drill pads and structures behind folds in the terrain or screened by trees would allow exploration activity to meet VRM Class II objectives. It should be noted that upon discovery, there is a high potential that development of the lease beyond the level of exploratory construction will not meet with VRM Class II objectives.

UT1108-001, 002, 003, 006, 008, 012, 013, 014, 016, 019 and 036
UT0309-018, 020, 036, 022, 023, 024, 027

Portions of these parcels are located in visual resource management class III areas which allow for some alteration of the characteristic landscape. Changes to the basic shapes, color and texture of the landscape can be viewed but should not attract the attention of the casual observer. Exploration activity will result in change to the linear aspect of the landscape by the addition of vertical line shape of drilling equipment. Daily or continual use of vehicle routes leading to drill sites will highlight these linear features by changing the contrast of the current line with the existing background texture. Mitigation measures and other BMP's such as using environmentally friendly paints to camouflage or allow structures to blend into the background and/or the placement of drill pads and structures behind folds in the terrain or screened by trees would allow exploration activity to meet VRM Class III objectives. It should be noted that upon discovery, there is a high potential that development of the lease beyond the level of exploratory construction might not meet with VRM Class III objectives.

Wildlife

Big Game
Crucial Winter Mule Deer and Elk Habitat

UT1108-002, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 022, 023, 025, 026, 027, 035, 036, 037, 038, 039, 040, 041, 042, 044, 045, 046, 047, 048, 049, 050, 051, 052
UT0309-038

Portions of or the entire lease parcels of the above leases are within crucial winter range for either mule deer or elk. Crucial deer winter range was identified in the Implementation EA's for each of the planning areas; therefore a timing limitation stipulation and notice has applied to parcels UT1108-002, 012, 013, and 016. A lease notice has been applied to the remainder of the lease parcels listed above. UDWR defines crucial value as "habitat on which the local population of a wildlife species depends for survival because there are no alternative ranges or habitats available" and "...essential to the life history requirements of a wildlife species." They further state that degradation or unavailability of crucial habitat will lead to declines in carrying capacity and/or numbers of wildlife species in question. UDWR defines substantial value as "habitat that is used by a wildlife species but is not crucial for population survival" (UDWR 2008d, UDWR 2008c).

Pronghorn Fawning and Winter Habitat

UT1108-017, 018, 019, 020, 021, 024, 025, 026, 027, 028, 029, 030, 031, 032, 034, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 046, 047, 048, 050
UT0309-013, 014, 015, 016, 017, 032

Portions of or the entire lease parcels of the above leases are within crucial yearlong habitat which has been covered by two notices. The pronghorn winter habitat and pronghorn fawning habitat notices will protect the important seasonal habitat from being impacted by any exploration.

Bald Eagle Habitat

UT1108-002, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 032, 033, 034, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049, 050, 051, 052
UT0309-013, 014, 015, 016, 017, 032, 038

Portions of or the entire lease parcels of the above leases are within Bald eagle nesting and/or winter roost habitat. Within the FFO it is more likely to be winter roost habitat that will be protected by the lease notices applied to the above lease parcels. There are no known roost sites located near any of the parcels. This said, there is a substantial wintering population of bald eagles in Utah and with increasing success of the species expansion into new territories, it is reasonable to assume that wintering bald eagles could and often do forage on big game winter ranges, where carrion and other food sources are found. There are documented nests sites within the FFO near lease parcels UT1108-009 and UT1108-012. Committed conservation measures are identified in Table 2 as indicated with the extra protection of raptors, and lease notices FFO-LN-13 and FFO-LN-19 will be attached to each parcel that contains big game winter range and therefore, potential foraging habitat for bald eagles. These protective measures will provide notice and guidelines by which future oil and gas exploration and/or development operators can ensure protection of bald eagles on these leases. Based on the best information available, there are not likely to be any adverse impacts to the Bald Eagle as a result of the proposed action.

Peregrine Falcon

UT0309-027

Peregrine falcons are still rare in Utah; it has become much more abundant throughout its range in recent years. This species prefers to nest on cliffs or bluffs where it can create a nest site out of a shallow scrape. Pahvant Butte (a designated ACEC) is a historical peregrine falcon eyrie, and it has been identified by the UDWR as a reintroduction site for the species. Management direction for this ACEC regarding oil and gas leasing is No Surface Occupancy to protect the relevant and important values, and an additional notice with the specific intent of protecting the nest sites of peregrine falcon for the above parcel.

Burrowing Owl

UT1108-008
UT0309-029

Burrowing owls are potential summer-time residents in the FFO. The *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romin and Muck 2002) identify March through August as the key nesting and reproduction period for this species, although individuals may remain into September before migrating. They typically nest and roost in burrows dug by mammals, specifically Utah prairie dog, badgers, or ground squirrels. Burrowing owls spend much of their time on the ground or on low perches, such as fence posts or dirt mounds. Additional protection for this species is provided through the implementation of a lease notice on the above listed parcels indicating that burrowing owls have been identified within the lease parcel and activities may need to be altered to protect the species and their habitat.

Conservation Agreement Species

UT1108-035, 038, 039

Special status species that have a Conservation Agreement and Strategy (Conservation Agreement Species) will have an additional protective measure in the form of a lease notice. This protective measure ensures that the operator knows there is a Conservation Agreement species or habitat potentially on the lease and that they will be required to meet all of the special requirements outlined in the Conservation Agreement before any activity takes place within the habitat. Conservation Agreement species are also protected by the BLM's 6840 Manual for sensitive species (and a Sensitive Species Notice) which states that the conservation of special status species incorporates the use of all methods and procedures which are necessary to improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted. At this time, there are four Conservation Agreement species; Bonneville cutthroat trout, least chub, Columbia spotted frog, and northern goshawk. The parcels listed above contain Bonneville cutthroat trout habitat. There is another protection for these species in the form of the riparian area protective measure which restricts surface disturbing activity within 500 feet of the riparian area.

Greater Sage-grouse Winter Concentration Areas

UT-1108-018, 019, 024, 025, 027, 029, 030, 031, 032

During winter, greater sage-grouse feed almost exclusively on sagebrush leaves and buds, so exposure above the snow is critical (BLM 2002). There are winter concentration areas near the northern border therefore the above parcels have the additional lease notice for greater sage-grouse winter range. The sage-grouse winter range notice restricts exploration, drilling and other development activities from November 15 through March 1 in identified greater sage-grouse winter concentration areas. This notice would assist in the conservation of the winter range of sage-grouse within the FFO.

Utah Test and Training Range Military Operations Area (MOA)

UT-1108-034, 035, 036, 037, 038, 039, 040, 041, 042, 047, 048, 049, 050

All or portions of this parcel are located underneath Utah Test and Training Range (UTTR) Airspace. The airspace is comprised of Military Operations Areas and Restricted Airspace. Prior to approval of any operations on this lease you must contact the 388th Range Squadron Security Office, Hill Air Force Base for coordination concerning the requirements in the notice attached to the lease parcels listed above.

Waterfowl Nesting and Winter Concentration Areas

All Lease Parcels

Surface waters suitable for waterfowl nesting and/or winter concentration areas are may be present within any parcel within this lease sale. The nesting and winter concentration areas have not been mapped and would be identified on a project specific basis at the APD stage. A notification of a potential timing limitation is attached to these leases for the protection of waterfowl. Disruptive activities near surface waters with nesting waterfowl, wintering waterfowl, or during migration periods (from approximately March 15 through July 15 and/or November 1 through March 15) would likely cause negative impacts and would be discouraged. Specific limitations would be determined on a site-specific basis.

Sensitive Species

All Lease Parcels

Due to the large number of sensitive species throughout the FFO, and a changing species list it is important to have extra protection for sensitive species on each parcel in the form of a lease notice. The lease notice prevents direct disturbance to populations or individual special status plant and animal species, including those listed on the BLM sensitive species list and the Utah sensitive species list. It also provides measures for the conservation of sensitive species habitat. This notice provides additional protection to the Sensitive Species Policy in the BLM Manual 6840 and other regulations. A specific sensitive species notice for yellow-billed cuckoo habitat protection is also attached to all lease parcels.

Pygmy Rabbit

All Lease Parcels

Pygmy rabbits are found in northern and western Utah, where they prefer areas with tall, dense sagebrush and loose soils. Their habitat is widespread and difficult to identify and map, therefore it has not been mapped within the FFO. Due to these circumstances, the pygmy rabbit lease notice preventing certain activities within 300 feet of pygmy rabbit habitat is attached to every lease parcel. Surveys to identify of pygmy rabbit habitat should be conducted at the APD stage and the conditions of the lease notice should be applied accordingly.

Raptors

All Lease Parcels

Raptors, including the, ferruginous hawk, short-eared owl, bald eagle, and other species that are not listed on the BLM's sensitive species list but also are common in the FFO. A raptor notice has been placed on all lease parcels for the March 2009 Oil & Gas Sale since raptors change nesting sites often and there has not been a thorough mapping of raptor species in the FFO. Identification of this resource will be required at the APD stage. Because of the variety of raptor species present in the FFO, all habitat types are protected including fields, sagebrush steppe, and pinyon pine-juniper woodlands. Nesting tends to be concentrated around cliffs, large trees, embankments, and other habitat features. The FWS has developed the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romin and Muck 2002) which outlines appropriate guidelines for spatial and seasonal buffers to protect nesting raptor. Seasonal buffers restrict activity around nests as early as December 1 for great-horned owls, January 1 for golden eagles, February 1 for peregrine falcon, and March or April 1 for other diurnal raptors. The seasonal buffers remain in effect until August, or until a nest is no longer occupied. Although no longer protected under ESA, bald eagles remain protected under the Bald Eagle Protection Act of 1940 (16 USC 668-668d, 54 Stat. 250).

Riparian Area Protection and Floodplain

All Lease Parcels

Riparian areas and floodplains have not been identified in the FFO, therefore lease notices for these resources have been applied to all lease parcels. These resources would be identified on a site-specific basis at the APD stage. The riparian area protection notice restricts surface disturbing activities within 500 feet of riparian area and wetlands. This indirectly also protects water quality and fisheries resources. The floodplain notice requires surveys to identify the floodplain and development should be located outside of the floodplain.

Erodible Soils and Steep Slopes

All Lease Parcels

Many areas within the FFO are within municipal or non-municipal watersheds that contain steep slopes and erosive soils. The notice protects these resources by requiring that new roads will be constructed to avoid soils that are highly erosive and / or in critical or severe erosion conditions and they will also be constructed with water bars. Riprap may be required. Road grades in excess of 8 percent will normally not be allowed. In special circumstances, where a road grade of more than 10 percent is allowed, its maximum length will be 1,000 feet. In order to prevent erosion access grading along with exploration, drilling, construction, or other activities will be prohibited during wet or muddy conditions (usually during spring runoff and summer monsoon rains). Steep slopes in excess of 30 percent may be prohibited.

APPENDIX K

March 2009 Oil & Gas Lease Sale Maps